

COMPUTING RESEARCH NEWS



Computing Research Association
Uniting Industry, Academia, and Government to
Advance Computing Research and Change the World.

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CRN At-A-Glance

CRA Update: CRA-Industry Launches New CRA Practitioner-to-Professor Survey

Backed by NSF and endorsed by ABET, ACM, CSAB, and IEEE CS, CRA-I's new CRA P2P Survey is designed to solicit actionable feedback from industry professionals of all levels to provide computing departments with data and insights to continually improve.

Read more on page 2.

Upcoming CRA-E Webinar Series to Explore Teaching Career Paths

If you're a computing PhD student, postdoc, or industry professional interested in a career focused on teaching, CRA-E's upcoming three-part Virtual Career Landscape Workshop is just what you need to make sense of your options and successfully navigate the process.

Read more on page 3.

Best Practices for Hiring Teaching Faculty in Research Computing Departments

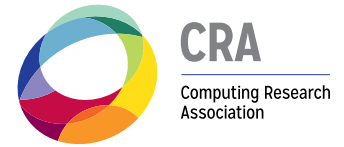
A new white paper from CRA-E discusses how the diversity in teaching faculty jobs and hiring practices creates challenges for both candidates and departments and then recommends best practices for the hiring process.

Read more on page 6.

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CRA Update: CRA-Industry Launches New CRA Practitioner-to-Professor Survey



By Matt Hazenbush, Director of Communications

CRA-Industry (CRA-I) is excited to announce the launch of a new National Science Foundation (NSF) supported project between academia and industry. The [CRA Practitioner-to-Professor Survey](#) – which will be known as the **CRA P2P Survey** – is the centerpiece of a long-term project with the goal of keeping computing curricula up to date and responsive to evolving trends.

Supported in part by a grant from the Division of Undergraduate Education at NSF and endorsed by ABET, ACM, CSAB, and IEEE CS, the survey is designed to solicit actionable feedback from industry professionals of all levels to provide computing departments with data and insights to continually improve.

“We’re excited to be leading this initiative for the community, especially because it’s a win-win for everyone,” said Rahul Simha, project lead and Professor of Computer Science at The George Washington University, representing an effort by several faculty across multiple universities through the NSF-funded [DEAP project](#). “Universities get the data they need to keep their curricula current, which in turn leads to better prepared prospective employees for companies.”

Feedback loop for continual curricular improvement

The survey – which takes less than 15 minutes to complete – is designed to collect data from industry professionals on questions that can directly support decisions around course design, including which competencies are most important, which course experiences are most valuable and which are less needed, and what industry most values in graduates over the long term.

[Industry Professionals -> Take the Survey](#)

Survey respondents will receive a summary of the survey’s findings, and will have the option to opt-in to a drawing to win a \$100 gift card.

“This project is a perfect example of how CRA-Industry serves the community by being a point of connection and collaboration between industry and academia,” said Helen Wright, Manager of CRA-I. “The credible industry feedback from this survey will go a long way to guide university leaders as they make decisions and investments for their programs’ futures.”

Expansion of a prior pilot survey

The CRA P2P Survey is an expansion of an earlier pilot survey developed by Simha in collaboration with the ACM/AAAI/IEEE Joint Task Force on Computing Curricula. The findings from that pilot survey will soon appear in the [Communications of the ACM](#), one of the most widely distributed publications in computing academia. These results have already informed the design of the [ACM’s new 2023 curricular guidelines](#).

“With the establishment of this survey, we’re seeking to build a culture of feedback from industry to academia for making key decisions around computer science curricula,” said Simha.

“A regularly administered and respected survey with wide participation and acceptance can bring to bear the data needed to effect meaningful updates and spur high-impact educational research that gets to the heart of exploring the gaps between curricular aims and real-world results.”

Help spread the word

The success of the survey hinges on reaching as diverse a respondent base as possible among industry professionals in computing. Responses are needed from across employee type and level (from newbie to experienced), companies (large/small, geographic, international), and computing subdisciplines.

CRA Update *(continued)*

“We’re calling on the entire community to support us in spreading the word about the survey,” said Wright. “Every little bit of effort to share this opportunity for industry professionals to provide their valuable insights will help make a difference.”

Here’s some ways you can support this work:

- Like and reshare CRA’s recent [LinkedIn](#), [Facebook](#), [Instagram](#), and [Twitter/X](#) posts with your networks. Consider tagging specific colleagues you know would be interested–this will further amplify the message.
- If you’re from a university, consider sharing the survey in an upcoming alumni newsletter or online alumni group, or sending a one-off email about the survey.
- Share the survey directly with individual industry professionals via email.
- Post this [printable flyer](#) with a QR code in a place where industry professionals may see it.

Upcoming CRA-E Webinar Series to Explore Teaching Career Paths



By Matt Hazenbush, Director of Communications

As institutions continue to expand their computing programs, the number and variety of opportunities for teaching-focused faculty positions has never been greater. Most PhD-granting departments have introduced a teaching faculty track – often with academic rank – while many masters-granting and primarily undergraduate institutions are significantly growing their faculty rosters.

“There’s a lot of demand right now if you’re interested in opportunities to focus on teaching,” said Janet Davis, CRA-E Board Member and Professor and Microsoft Chair of Computer Science at Whitman College. “But understanding the growing range of opportunities, and how to be successful in the hiring process, can be a real challenge.”

If you’re a computing PhD student, postdoc, or industry professional interested in a career focused on teaching, an upcoming webinar series from CRA-Education (CRA-E) is just what you need to help you make sense of your options and successfully navigate the increasingly complex teaching landscape.

Virtual Career Landscape Workshop 2024

Based on updated material from two past highly-successful in-person workshops offered at ACM’s Federated Computing Research Conference (FCRC), CRA-E’s three-part [Virtual Career Landscape Workshop](#) will discuss and compare teaching-focused career paths, highlight how to best prepare for teaching positions, and discuss how to effectively apply for different kinds of positions.

“The aim of these sessions is to enlighten folks about the career options that exist for people interested in teaching,” said Kelly Shaw, CRA-E Co-Chair and Professor of Computer Science at Williams College. “It’s our hope that the workshop will be beneficial for those who are exploring a range of different career paths, and give participants the knowledge they need to pursue a teaching-oriented career if they decide that’s their goal.”



Webinar Series (continued)

Open to all and offered at no cost, the three-part virtual workshop series will take place over three consecutive Thursdays in May at 6:30 pm ET / 5:30 pm CT / 4:30 pm MT / 3:30 pm PT. Participants may attend all three sessions or only the ones that interest them.

[Register Now](#)

Each 80-minute interactive session will include a formal panel presentation, time for candid Q&A with the panelists, and a breakout session for networking and small group conversations.

- **Thursday, May 9:** What is the landscape of teaching-oriented careers?
- **Thursday, May 16:** How can I prepare myself for a teaching-oriented career?
- **Thursday, May 23:** How do I apply for teaching-oriented positions?

“It’s our intention through blending presentations with Q&As and small group discussions that participants will walk away with not only an understanding of the career landscape, but also personalized insights based on their connections with experienced faculty and peers,” said Borja Sotomayor, CRA-E Board Member and Senior Instructional Professor in the Department of Computer Science at the University of Chicago.

In late summer, organizers and panelists will host online office hours to answer questions as job seekers prepare their application materials. Additional feedback will be available for participants who identify with minoritized groups.

Teaching Faculty 101

In anticipation of attending the live sessions, participants are encouraged to watch the **Teaching Faculty 101** video, featuring Drew Hilton, Professor of the Practice in Electrical and Computing Engineering at Duke University.

Career Landscape Workshop Series

Teaching Faculty 101

CRA | CRA-E

UR2PhD Continues to Engage Undergraduates Interested in Learning More About Computing Research; You’re Invited to Our Last Spring Workshop



By Julia Sepulveda Avalos, Program Associate, CRA-E

Earlier this year, the UR2PhD team launched the Computing Research Engagement and Awareness Series, a monthly virtual workshop program that helps undergraduate students learn more about computing research.

Throughout the spring series, participants have acquired a better understanding of what a computing research career can look like, what encourages some researchers to remain in their field, and how an advanced degree can open up new opportunities for folks.

Previous sessions included moderated panel discussions, informative presentations, guest speakers, and live Q&A’s.



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UR2PhD Spring Workshop (*continued*)

The last session of the spring series will be held on **Monday, May 6 from 6pm - 7pm ET / 3pm - 4pm PT via Zoom**. The **session**, entitled “How do I combine other interests with computing?” will highlight how diverse and interdisciplinary computing research can be in practice. Whether you’re new to research or have an established interest in the field, we encourage you to join the session to broaden your perspective on computing.

Undergraduates of all stages and experiences are invited to participate; we strongly encourage folks who are underrepresented in computing to join. While **registration** is required, it will be open through the end of the session.

[Register Now](#)



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Get Involved with UR2PhD

By Julia Sepulveda Avalos, Program Associate, CRA-E

The Undergraduate Research to PhD Mentoring Program (UR2PhD) was born out of a critical need to address underrepresentation within computing. UR2PhD aims to increase the quality and scale of undergraduate research experiences, so that more women and gender-marginalized individuals have access to opportunities. As part of the program, there are multiple opportunities for students and faculty to get involved.

For undergraduate students:

This summer, we are hosting a short 4-5 week course where you’ll be trained on foundational research skills within the context of a research project. In an effort to increase the accessibility of our program, **applications** are now rolling, with extended priority deadlines of **April 23, 2024** for session A and **May 14, 2024** for session B. Applications will be accepted until the courses start, subject to space limitations.

For graduate students:

If you’re looking to receive actionable training and hands-on experience on mentorship in a research environment while advancing your research, we encourage you to speak to your advisor about mentoring 2-4 undergraduates on a research project. Mentors of our undergraduate research course methods will be invited to participate in our graduate student mentor training course.

At this time, we are also hiring teaching assistants for our summer undergraduate research methods course. View the **full job description** and consider applying.

For faculty:

Are you working with undergraduate researchers this summer? Encourage them to **apply** for our undergraduate research methods course! The course will teach novice researchers fundamental skills including how to conduct a literature review and how to analyze data. Students will learn these new skills by applying them to your research project.

Are you looking for more opportunities to teach remotely? We’re currently **hiring** fall instructors for our undergraduate and graduate student courses.

Learn more about UR2PhD by visiting cra.org/ur2phd

Best Practices for Hiring Teaching Faculty in Research Computing Departments



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By Jennifer Campbell (University of Toronto), Mark Floryan (University of Virginia), Geoffrey Herman (University of Illinois Urbana-Champaign), Michael Hilton (Carnegie Mellon University), and Jérémie Lumbroso (University of Pennsylvania)

The rising demand for computing degree programs has led to a rapid increase in teaching faculty positions in computing related fields. This white paper discusses how the diversity in teaching faculty jobs and hiring practices creates challenges for both candidates and departments and then recommends best practices for the hiring process.

Teaching faculty hiring best practices for departments include:

- Departments should carefully plan the timing of the search in relation to other searches within the department and avoid hiring teaching faculty positions with different job descriptions using the same process.
- Departments should clearly communicate the expectations of the role in the job ad, including key details such as workload, provisions for job security, anticipated subject area needs, expectations for diversity, equity, and inclusion (DEI) related experience, and departmental policies related to teaching faculty.
- Departments should develop rubrics that align exactly with the expectations of the role as outlined in annual and promotional review guidelines, and evaluate candidates against those rubrics.
- Departments should use phone interviews not only for assessment, but also to support candidates by providing clarification about the position and interview process.
- Departments should recognize the wide variety of teaching faculty interview formats used across institutions and provide candidates with as much information about screenings and interviews as possible in advance.
- Departments should ensure that the job talk(s) content and format aligns with the expectations of the role.
- Departments should provide flexibility to candidates with respect to job talk(s) subject and structure where feasible.
- Departments should confer with candidates about offer timelines and be prepared to negotiate on not only salary and start date, but also on contract length and support, including start-up/professional/research funds.

Beyond the hiring process itself, departments should create opportunities for graduate students and postdocs to develop teaching experience to better prepare them for teaching faculty positions.

Read the full best practices report [here](#).

Optimizing Code Performance in Serverless Environments

By *Yasra Chandio (CRA-E Fellow, University of Massachusetts Amherst) and Alejandro Velasco Dimate (CRA-E Fellow, College of William & Mary)*

This Q&A highlight features Shreyas Kharbanda, an Honorable Mention in the 2023 CRA Outstanding Undergraduate Researchers award program. Shreyas finished his undergraduate degree at Purdue University and is now pursuing his Ph.D. in Computer Science at Cornell University.

What brought you to computing research?

Following the recommendations of my undergraduate academic advisor, I reached out to Professor **Pedro Fonseca**, who was kind enough to discuss my research interests with me. He gave me the opportunity to collaborate on an ongoing project in his lab, aiming to explore the intersection of operating systems, programming languages, and distributed systems. Dr. Fonseca's mentorship was instrumental for me to jump into the beginning of my research journey, which I pursued throughout my junior and senior years at Purdue. I was drawn to research because of my interest in computer systems and the opportunity to collaborate with amazing people to solve intellectually challenging problems.

What challenges did you encounter when you started research?

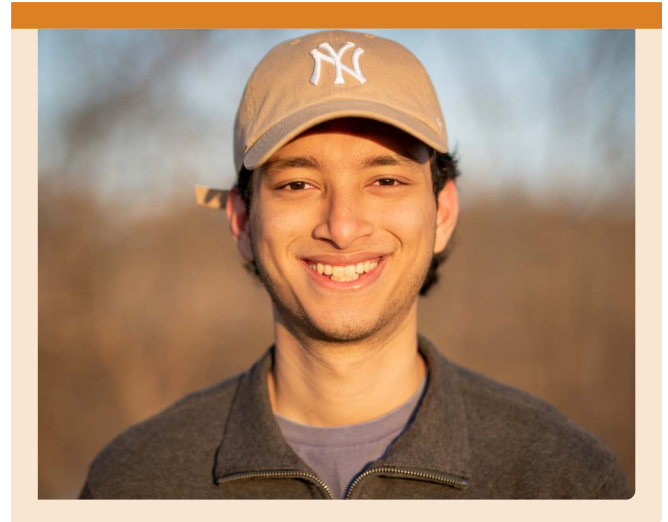
When I began my research, I was often overwhelmed by all I did not know. But, it was amazing when I started looking at how much I was learning week after week. I quickly shifted my focus from what I did not know to the progress I was making.

How was your experience working in a research environment?

The collaborative environment in Dr. Fonseca's research group was very inspiring. I was fortunate to work with Sumer Kohli (Graduate Student at Stanford), **Joao Carreira** (Former Graduate Student at UC Berkeley), and Prof. **Rodrigo Bruno** (Faculty at the University of Lisbon). All the researchers with whom I had the opportunity to interact were encouraging and supportive. This sparked my curiosity to explore new boundaries in system research and expanded the horizons of what I considered possible for my career and research plans.

Can you tell us about your project?

My research aimed to enhance the reliability and performance of cloud-based systems. Modern language runtimes enhance code performance by gathering execution profiles during runtime. These execution profiles are data collections that detail how programs behave during their execution. However, in **serverless environments**, where program instances can be scaled or terminated, cloud providers can evict execution profiles due to inactivity, erasing the accumulated knowledge. When restarted, redundant computations are executed as they gather these profiles, missing opportunities to improve the performance of applications across different instances. Researchers have been working on ways to alleviate this problem by using snapshots created after a program starts and have done a few tasks, deciding the best moment to take a snapshot while capturing most of the optimal operations in scenarios that depend on run-time compilations is still a big question that researchers are trying to answer. To solve this issue, we started from the basics. We systematically dug into the lower level of serverless computations, such as checkpoint primitives, and investigated different mechanisms to capture snapshots along with their trade-offs. By doing so, we developed a system that



Shreyas Kharbanda, B.S. in Computer Science, Purdue University



Q&A Highlight (*continued*)

uses a smart and adaptable strategy for quickly saving and loading program instances to make serverless functions run faster with optimized code as soon as they start executing. Our project culminated in an end-to-end system implementation, significantly improving the performance of serverless functions over the state-of-the-art. Our work will be published in EuroSys '24.

What aspects of research shaped your professional path?

One of my favorite aspects of research was tackling intellectually challenging problems alongside exceptionally talented and kind individuals. Watching faculty members passionately contribute to science and mentor the next generation of researchers made me realize that I aspire to join this esteemed community and make a meaningful impact. My lab environment not only fostered deep learning skills but also facilitated my personal and professional growth. For instance, our combined hard work and efforts culminated in two major publications: one presented at **SESAME'23** and another at EuroSys'24. Combined, all of these experiences have deeply influenced my career goals.

How do you balance research with other interests?

Balancing my research commitments with my hobbies has been a learning experience. I have discovered that skills such as problem-solving, patience, and creativity, which I develop through my hobbies, equally apply to my research. I dabble in wilderness backpacking and playing the guitar; these activities provide a much-needed break from academic work, helping me stay mentally refreshed and often inspiring new ideas.

Do you have any advice for other students looking to get into research?

The best advice I have received is to start researching and keep learning as you go. In the beginning, you might feel unsure and overwhelmed, but that is okay. You should embrace the uncertainty because it is a normal part of the journey. Don't let it discourage you; instead, see it as a chance to grow and keep moving forward.



Thank You, Data Buddies! (Fall 2023)

By CERP Staff

CRA and CERP wish to thank the institutions and departments that distributed the 2023 annual **Data Buddies Survey!** A total of **149 institutions** worked with CERP for the 2023 survey year, with 46 departments receiving "elite" status by obtaining a response rate of 20% or more.

The collective efforts of Data Buddies institutions enable CERP to provide resources to the computing community through research and evaluation focused on students' experiences in computing degree programs. For example, CERP publishes **monthly infographics** and conducts **research** using Data Buddies data.

Is your institution listed herein as a Data Buddy? If not, help the computing community by becoming a Data Buddy today! Joining is free and easy, and your department will receive a report every year you participate in the project. **Check out our sample report here!**

Click here to learn more about Data Buddies and click here to sign up!



Data Buddies (continued)

Special thanks to the **48 Elite Data Buddies**, who had at least a 20% response rate from their students!

Bard College	Michigan State University *	University of North Carolina-Charlotte (School of Information Science) *
Boston University (Computer Science) *	Middlebury College	University of Oregon *
Calvin University	New Mexico State University-Main Campus *	University of Puget Sound
Colgate University *	Northern Kentucky University *	University of Virginia (Electrical and Computer Engineering) *
College of Charleston *	Radford University	University of Virginia (Computer Science) *
Colorado State University *	Simmons University	University of Washington *
Cornell University *	Southern Connecticut State University	Villanova University *
Davidson College *	Stony Brook University *	Virginia Commonwealth University *
DePauw University	Temple University *	Wellesley College *
Eastern Washington University	University of Cincinnati *	Westminster University
Gallaudet University	University of Maine *	Winston Salem State University
Georgia Gwinnett College	University of Maryland-College Park *	Worcester Polytechnic Institute *
Green River College	University of Nebraska-Lincoln *	Worcester State University
Illinois Wesleyan University	University of North Carolina-Charlotte (Computer Science) *	Yale University *
Kean University *	University of North Carolina-Charlotte (Bioinformatics) *	
Lehigh University *		
Loyola University Maryland		

And a big thank you to the rest of the **actively engaged Data Buddies** who contributed to the project this year!

Allegheny College	Drexel University *	New York University Tandon School of Engineering *
Arizona State University *	Duke University *	North Carolina State University *
Auburn University *	Farmingdale State College	Northeastern University *
Baldwin Wallace University	Fisk University	Oberlin College
Barnard College *	Florida State University *	Ohio University *
Boise State University *	George Mason University *	Oklahoma State University-Main Campus *
Boston University (BU Spark!)	Georgia Institute of Technology *	Pacific Lutheran University
Bowling Green State University-Main Campus *	Georgia State University (Computer Science) *	Purdue University *
Brown University *	Georgia State University (Computer Information Systems)	Rochester Institute of Technology *
Carleton College *	Grinnell College *	Rutgers University-New Brunswick Campus *
Carnegie Mellon University *	Harvard University *	San Diego State University
Case Western Reserve University (Computer and Data Sciences) *	Harvey Mudd College *	Southwestern University
Case Western Reserve University (Electrical, Computer, and Systems Engineering)	Johns Hopkins University *	St. Mary's College of Maryland
Clark University	Kansas State University *	Swarthmore College *
CodeCrew Code School	Loyola University Chicago *	Tennessee Technological University *
Columbia University *	Montana State University *	Texas A&M University-College Station *
DePaul University *	Morehouse College	Texas Southern University *
	Morgan State University *	Texas State University *
	New Jersey Institute of Technology *	Tufts University *



Data Buddies (continued)

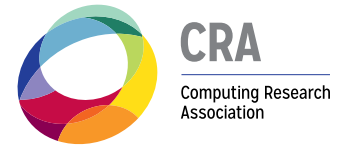
Union College *	University of Maryland-College Park *	University of Texas-Austin (Computer Science) *
University of Alabama *	University of Massachusetts-Amherst *	University of Texas-Austin (Electrical and Computer Engineering) *
University of British Columbia *	University of Massachusetts-Boston *	University of Texas-Dallas *
University of California-Irvine *	University of Massachusetts-Lowell *	University of Texas-El Paso *
University of California-Riverside *	University of Michigan-Ann Arbor *	University of Texas-San Antonio
University of California-Santa Barbara *	University of Minnesota-Twin Cities *	University of Toronto *
University of California-Santa Cruz *	University of Nebraska-Kearney	University of Utah *
University of Central Florida *	University of Nevada-Reno *	University of Wisconsin-Madison *
University of Chicago *	University of New Mexico-Main Campus *	University of Wisconsin-Milwaukee *
University of Colorado Boulder *	University of Notre Dame *	Virginia Tech *
University of Hawaii at Manoa *	University of Pittsburgh (Computer Science) *	Washington and Lee University
University of Hawaii-Hilo *	University of Pittsburgh (Informatics and Networked Systems) *	Washington University-St Louis *
University of Houston *	University of Rochester *	Wayne State University*
University of Illinois-Chicago *	University of San Diego	Western Washington University
University of Illinois-Springfield	University of Southern Mississippi *	Whitman College *
University of Illinois-Urbana Champaign *		
University of Iowa		
University of Maryland-Baltimore County *		

* Indicates CRA member departments. In cases where a CRA member department is embedded in a larger college, the college was marked as a member.

This message is brought to you by the CRA's Center for Evaluating the Research Pipeline (CERP). CERP provides social science research and comparative evaluation for the computing community. Subscribe to the CERP newsletter [here](#).

The Data Buddies Project is currently supported through National Science Foundation (NSF) awards DUE-1821136, CNS-2036717, CNS-1840724, sub-awards and contracts, and direct CRA contributions. Previous NSF awards that supported the project include CNS-1246649 and DUE-1431112, and CNS-1840724. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Get To Know NSF CSGrad4US: Highlighting Current Fellows



By Elora Daniels, Communications Associate

As applications roll in for the NSF CSGrad4US program, the Computing Research Association (CRA) is continuing to highlight some of the current Fellows participating in the program.

The NSF CSGrad4US Fellowship is open to anyone who has been out of school since January 2024. To help answer questions from the community and provide general insights into the program, the CSGrad4US team hosted an **informational webinar** to answer questions for those interested in applying this year.

Learn more and apply for the CSGrad4US Fellowship by **May 31, 2024**: <https://cra.org/csgrad4us/>

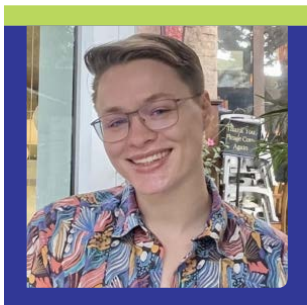
If you're still not sure if you're the right fit for the fellowship, take a look at the diverse backgrounds and fields being explored by our current fellows:



David Atkinson, Northeastern University

Computer Science – Interpreting Deep Learning Models

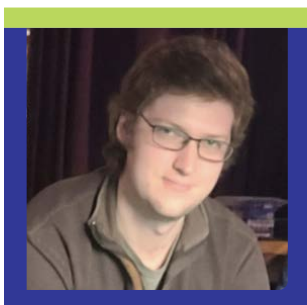
I am a first-year PhD student at Northeastern University, advised by David Bau and Byron Wallace. My research interests revolve around interpreting and controlling large language models. Before starting the PhD, I worked as a software engineer at an agricultural startup, and then as a researcher at Epoch, investigating when and how we should expect advanced AI capabilities to arrive. I majored in Math and Computer Science at the University of Colorado, Boulder, where I did NLP research advised by Chenhao Tan.



Sarah Boelter, University of Minnesota

Computer Science and Engineering – AI and Robotics

Sarah graduated with her undergraduate degree in Computer Science from the University of Alaska Anchorage. She worked for four years in the aviation industry as a software engineer before beginning her doctorate in Computer Science at the University of Minnesota in Minneapolis. Her research interests include the intersection of artificial intelligence and robotics in aviation and space, and is currently working on robotic autonomy in high-risk planetary environments. Sarah is on the University of Minnesota Nordic Ski Team, enjoys spending time outdoors, and volunteering with local animal rescues. Sarah is supported in her studies by her spouse, Patrick and her cat, Squeak.

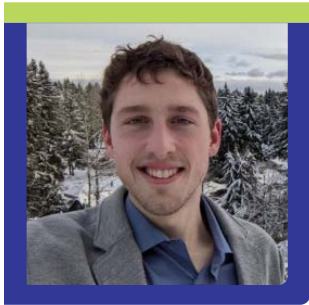


Jordan Esiason, North Carolina State University

Computer Science – Machine Learning/AI

Jordan Esiason is a graduate student at North Carolina State University's Department of Computer Science. He received his Bachelor's degrees in Statistics and Music Composition at the University of Massachusetts Amherst in 2019. He worked in the computer science education research field for SageFox Consulting Group after graduation, becoming involved in a number of grant-funded projects that aimed to increase the accessibility and quality of computer science education in the United States. His research interests currently include applying natural language processing and artificial intelligence to computer science education, such as in the creation of intelligent tutoring agents.

NSF CSGrad4US (continued)

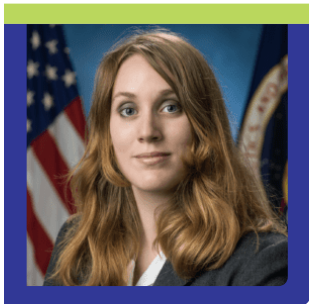


Steven Golob, University of Washington Tacoma

School of Engineering and Technology – Privacy-preserving machine learning, fair AI, differential privacy

Steven is a lifelong student of mathematics and computer science. Having spent time at the Boeing Company as a software engineer, working on the flight simulator, he is now in the PhD program at the University of Washington Tacoma. There, he was the lead of a team that won 1st place in the SNAKE challenge on privacy attacks against synthetic data. He is also the recipient of the SET Outstanding Graduate Research Award (2023) and the Andrew and Julie Fry Innovation Award (2023)

for his contributions to the solution with which his research team won 2nd place in the NSF-hosted U.S.-U.K. PETs Prize Challenge 2023. His research interest is in privacy-preserving machine learning (PPML) and fair AI, critical fields that address the widespread concerns of handling personal data securely and equitably. Steven sees research in PPML as a way to contribute meaningfully toward technologies that have huge impacts in people's lives. At the same time, working in academia will allow him to fuel his passion for helping and mentoring his fellow computer science students.

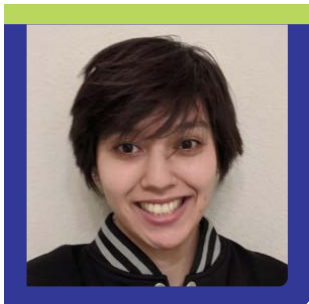


Leah Lackey, Cornell University

Electrical & Computer Engineering – Robotics

My research area is robotics, with a particular interest in motion planning and incorporating my past research experience with machine learning. I have always had a great interest in robotics due to its multidisciplinary nature and great potential to positively impact society. I also have a deeper, more personal draw to it from my experience undergoing a surgery with the da Vinci robotic surgical system. While I'm still deciding on a specific project to dive deeper into, I am heavily influenced by a desire to help people through robotics. My undergraduate Electrical & Computer Engineering degree

was completed at Western Washington University in Bellingham, WA. I have also completed an internship at NASA and a research position at Yale University, which have helped hone my skills and interests.



Gabriella "Nikki" Ramirez, Virginia Tech

Computer Science – Dark Patterns and User Security and Privacy in Virtual Reality

Nikki Ramirez is a second-year PhD student focusing her research on dark patterns as well as user security and privacy in virtual reality. She is advised by Dr. Brendan David-John. Previous projects included virtual monitors in augmented reality, subtle gaze guidance in a 360° video, and visceral notices for eye-tracking. Currently, she is exploring user privacy concerns and needs in regards to potential risks and dark patterns in extended reality (virtual reality, augmented reality, mixed reality).

G. Nikki Ramirez graduated from University of Colorado Boulder in 2019 with a BA in Computer Science and Minors in History and English Creative Writing. She previously worked at University of Colorado Denver's Physics Department with the Super Cryogenic Dark Matter Search (SCDMS) collaboration as a Staff Scientist, as well as at Micro Focus as a Software Engineer II. In her free time, Nikki writes science fiction/fantasy novels, plays video games, and runs table-top RPG campaigns.

NSF CSGrad4US (continued)



Kaleen Shrestha, University of Southern California

Computer Science – Human-Robot/Computer Interaction

Kaleen is a first year Ph.D. student in the Computer Science department at the University of Southern California working at the Interaction Lab with Professor Maja Matari. She is interested in multi-party dynamics and multi-modal machine learning in the context of investigating how socially assistive robots can help children learn to resolve conflict. Prior to USC, she worked as a Research Analyst for two projects related to automatic speech recognition for low-resource languages and analyzing dehumanization in social media at the University of California, Santa Cruz in the Natural Language

Processing department. She received a B.S. in Computer Science and an M.S. in Natural Language Processing from the University of California, Santa Cruz.

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New SIAM Report Explores the Challenges Facing the Future of Computational Science



By Petruce Jean-Charles, Communications Associate, CCC

In 2023, the Society for Industrial and Applied Mathematics (SIAM), an affiliated professional society member of CRA, commissioned a task force to craft a strategic vision for arising challenges in the future of computational science. Earlier this month, the task force released its report, titled **The Future of Computational Science**. CCC is excited to highlight the importance and timeliness of this report in which many themes are confirmed by our visioning activities and reports.

As cited in the report, the United States was the unquestioned leader in advanced computing and computational science. The task force states that in recent years that leadership has been challenged by strategic rivals. The Future of Computational Science report was created to address ways of overcoming significant challenges to ensure continued U.S. leadership.

This report emphasizes the increasing importance of interdisciplinary collaboration. Breakthroughs in computational science often arise from the collaboration between experts from diverse domains, which fosters innovation and drives progress.

Nurturing the next generation of computational scientists is also essential for sustaining progress in the computing field. There should be robust educational programs and workforce development initiatives to equip future generations with the skills needed to tackle emerging challenges.

Other items highlight the ethical implications of computational research, advocating for responsible practices, transparency, and accountability to ensure that technological advancements benefit society as a whole.

Innovation and discovery, societal impact, and global challenges

Several areas in this report shine light on three points:

Innovation and Discovery: By fostering interdisciplinary collaboration and embracing emerging technologies, computational scientists can unlock new frontiers of knowledge and drive innovation across various domains.

Societal Impact: As computational science continues to advance, its impact on society will only grow. Ethical considerations must be prioritized to ensure that technological advancements are established responsibly and equitably.

Global Challenges: From climate change to healthcare to cybersecurity and beyond, computational science has a vital role to play in addressing global challenges. By leveraging computational tools and techniques, researchers can develop solutions to complex problems that affect humanity as a whole.

Key findings in the report include:

1. Computing researchers and funding agencies should focus on establishing more comprehensive computational science programs. This means dedicating funds, personnel, and infrastructure to support scientific research and problem-solving using computational methods. One program includes The Department of Energy's (DOE) Exascale Computing Project, located at the Oak Ridge National Laboratory. This project seeks to prepare scientists and computing facilities for exascale, a level of supercomputing capable of at least one exaFLOPS floating point calculations per second to support expansive workloads. To fully utilize ECP technology and future hardware, the program must make advances in both applied mathematics and computer science. This could involve developing algorithms, numerical methods, and software tools optimized for high-performance computing environments.
2. In addition to leveraging current advancements, the Exascale Computing Program should anticipate and prepare for future developments in high-performance computing. This includes investing in research and development to capitalize on upcoming hardware improvements. Collaboration is emphasized as essential for success. The program should foster partnerships between applied mathematicians, computer



SIAM Report (*continued*)

scientists, and application scientists. This multidisciplinary approach ensures that computational solutions are effectively tailored to address critical national challenges across various domains.

3. The nation requires a comprehensive set of investments to guarantee the sustained advancement of high-performance computing technologies. It is important not only to achieve exascale computing, but also ensure that the development of such capabilities extends further to meet the nation's ongoing and changing requirements in the field of advanced computational science.
4. Investing in alternative computing technologies like neuromorphic and quantum computing are essential to address significant challenges in the future that conventional computer architectures may not be able to. Neuromorphic computing is inspired by the structure and functioning of the human brain. It aims to develop computer systems that mimic the brain's neural networks, allowing for more efficient and flexible processing of information, particularly in tasks related to pattern recognition, learning, and adaptation. Quantum computing utilizes the principles of quantum mechanics to perform computations. Quantum computers have the potential to solve certain types of problems exponentially faster than classical computers, particularly in areas such as cryptography, optimization, and simulation.
5. As technology advances, scientific instruments and facilities are generating increasingly large and complex datasets. To continue advancing, scientists will need access to these vast amounts of data. However, doing so will require significant investments in infrastructure, resources, and technology to effectively collect, manage, analyze, and interpret these data streams.
6. Artificial intelligence and machine learning have significant potential to revolutionize scientific research processes. These technologies can enhance various aspects of research, including data analysis, pattern recognition, and hypothesis generation. However, fully realizing these opportunities will require substantial investments in mathematics and computing.

Intersection with recent CCC initiatives

This report reinforces some of the topics the CCC is interested in or working on such as the Full Stack Task Force. This task force focuses on everything that goes into a computer system, and how these technologies interface with users and developers. Conversations around exascale computing, quantum and neuromorphic computing are among the many discussions in the group. In fact, one of the Full Stack Task Force members, Bill Gropp at the University of Illinois in Urbana-Champaign, serves on CCC's council and is an expert in exascale computing where he is working on this technology.

Events like The Community Driven Approaches to Research in Technology & Society (CDARTS) workshop share similar goals as this report to bring researchers in computing and the communities affected by the impacts of AI systems together. The CDARTS workshop tackled how computing research can support their needs and best practices for collaboration.

CCC has also just finished a 6-roundtable series on establishing interdisciplinary best practices for computing research, which is relevant to the numerous mentions in the report about the urgent need for cross-disciplinary collaborations. CCC will be releasing a joint report with CRA on the topic in the coming months.

CRA and SIAM are connected in many ways. SIAM Task Force Chair Bruce Hendrickson from Lawrence Livermore National Laboratory was just **elected** to CRA's Board. Mary Hall, director of the School of Computing at the University of Utah, has also served on the task force and is on the CRA Board, while serving on CRA's Executive Committee.

Read the full SIAM Task Force report [here](#).

CCC Responds to RFI on DOE's Responsibilities on Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence



By Haley Griffin, Program Associate, CCC

On April 1, 2024, the CCC submitted a response to the Department of Energy (DOE)'s **Request for Information (RFI) Related to Responsibilities on Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence**. In the solicitation, DOE sought advice on their plan to carry out some of the responsibilities outlined for them in the October Executive order (E.O.), "Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence". The RFI response was written by the following CCC Council Members and staff: Nadya Bliss (Arizona State University), Haley Griffin (CCC), Michela Taufer (University of Tennessee, Knoxville), and Adam Wierman (California Institute of Technology).

The authors were impressed with the DOE's list of areas of focus and opportunities in AI application, but they also cautioned that AI can have significant detrimental environmental impacts. There are also many opportunity areas in computing beyond AI that they urge DOE to consider, as explained in the CCC Whitepaper, "**Computing Research for the Climate Crisis.**"

The CCC RFI Response was organized into the three major topics identified by DOE: (1) AI to improve the security and reliability of grid infrastructure and operations and their resilience to disruptions, (2) AI to improve planning, permitting, and investment in the grid and related clean energy infrastructure, and (3) AI to help mitigate climate change risks. Below are recommendations CCC provided under each area.

Topic 1. AI to improve the security and reliability of grid infrastructure and operations and their resilience to disruptions

- **Large scale compute/grid infrastructure operations:** The authors would like this to be added to the list of opportunities. There is a greater need for data centers than can realistically be supported in many areas of the US, and especially with the addition of AI to the grid, there is a massive construction load anticipated in the near future. The authors recommend (1) investing in software solutions designed to reduce the costs associated with accessing and using data remotely, and (2) programs that work jointly with utilities and datacenter hyperscalers to incentivize developing compute infrastructure outside of peak regions.
- **Understanding carbon impact:** This is an underfunded area of AI research especially at the local, regional level. This could entail using AI to predict renewable energy availability and to determine where marginal carbon contributions are on different parts of the grid in order to modulate operation charging, discharging, usage, economic incentives, skiffing, etc. This is especially important at the regional level where the impact of decisions can be felt more immediately and strongly.
- **Quantification and consideration of risks of AI use:** There is a need for context-specific uncertainty quantification tools to understand when and to what degree you can trust the advice/prediction from AI. There also needs to be safeguards integrated to account for the significant security risks associated with an AI system managing grid resilience, and because there would be drastic consequences in society if these systems make even small errors.
- **Importance of AI considering economic impacts:** The management of power systems requires integration between economics and engineering. There is significant danger in optimizing just the engineering of these systems because of the potential to impact market structures negatively.
- **Knowledge transfer of similar AI deployment:** Integrating AI into existing infrastructure is a strategy successfully applied in various sectors, such as rail infrastructure. These sections share critical objectives with the proposed plan for enhancing energy grid infrastructure, including the need for continuous monitoring, improving operational efficiency, and bolstering resilience against disruptions.

AI (continued)

- **Need for digital twins:** One of the key areas that needs to be supported is publicly accessible, robust, and detailed digital twins. Making use of AI in the domains listed requires detailed digital twins to be available for research and testing/validation. Digital twins would also be very useful in addressing Topics 2 and 3.

Topic 2. AI to improve planning, permitting, and investment in the grid and related clean energy infrastructure

- **Understanding the impacts of AI-recommended clean energy investments:** There needs to be a continuation of research into the impacts of following recommendations made by AI in using wind and solar energy. AI is being used to project, predict, and optimize the use of these technologies, and there needs to be an understanding of how well it did and if it was worth using.
- **Strategic placement of data centers to limit harm to communities and the environment:** Data centers have a significant impact on the power grid, and their location, orientation, large-scale storage generation placement, etc. needs to be heavily considered. These factors are only going to be more significant with AI increasing the energy demand. There are already disproportionate impacts on some communities, and in certain areas, a data center coming in would have devastating consequences on the prices of water and electricity in addition to environmental concerns like pollution.
- **Need for specific use case AI:** AI can have disastrous consequences if it is deployed in a setting that it was not trained for. There needs to be significant investment in LLMs for specific purposes that have specialized training data that is related to the area where it is going to be used.
- **Need for cyberinfrastructures for data accessibility and use:** The convergence of High-Performance Computing (HPC) with Cloud Computing is critical for broadening equitable access to data. The convergence underscores the importance of investing in infrastructure and technologies that allow for seamless remote data access, thereby minimizing the energy footprint associated with data movement. Integrating AI can optimize this convergence, enabling more efficient data processing and analysis methods.

Topic 3. AI to help mitigate climate change risks

In this section of the RFI Response, the authors referenced the “[Computing Research for the Climate Crisis](#)” CCC Whitepaper that highlights the role of computing research in addressing climate change-induced challenges. In the Whitepaper, the authors describe four broad areas of computing research (AI/robotics/algorithms, devices & architectures, software, and sociotechnical computing) that could make progress in six key impact areas: Energy, Environmental Justice, Transportation, Infrastructure, Agriculture, and Environmental Monitoring & Forecasting. They emphasize the need for interdisciplinary teams that bring computing researchers together across these areas along with engineers, as well as professionals from the social, behavioral, economic, and physical sciences.

In the Whitepaper, the authors specifically provide the ways that AI, robotics, and/or algorithms can help make progress in each key impact area:

- Energy: Planning, optimization, and decision support for production, distribution, and consumption of energy; AI-enabled materials science for renewables.
- Environmental Justice: Modeling and decision-support strategies that leverage those data and manage cascading risks.
- Transportation: Spatiotemporal planning strategies to optimize the routing of flows in the network.
- Infrastructure: Optimization and decision support of flows of energy, goods, water, vehicles, people, power, etc.; AI-enabled materials science for green materials.
- Agriculture: Algorithms that leverage rich sensor data, together with real-time information about economic factors and transportation networks, for planning and risk assessment.

AI (continued)

- Environmental monitoring & forecasting; Uncertainty quantification; system-level, risk-sensitive modeling, planning, and optimization strategies for climate variables, at all scales.

The CCC RFI Response wraps up by encouraging DOE to (1) engage in community outreach efforts to explain how AI is being used and the way it will improve planning, the security risks, and mitigations being taken, etc. and (2) to collaborate with other federal agencies on these efforts, especially those that have significant security implications like grid resilience.

Read the full CCC RFI response [here](#).

CCC Responds to the NTIA's Request for Information on Dual Use Foundation AI Models with Widely Available Model Weights

By Catherine Gill, Program Associate, CCC

At the end of March, the CCC responded to the National Telecommunications and Information Administration's **Request for Information on Dual Use Foundation Artificial Intelligence Models with Widely Available Model Weights**. The CCC's own Daniel Lopresti (CCC Chair and Lehigh University) and David Danks (CCC Executive Committee and University of California, San Diego) helped author this response along with several other members of the computing community. Markus Buehler (Massachusetts Institute of Technology) and Duncan Watson-Parris (University of California, San Diego), who both spoke at the CCC sponsored AAAS panel this year, titled, **Generative AI in Science: Promises and Pitfalls**, both contributed to the RFI response, along with Casey Fiesler (University of Colorado, Boulder), who attended the CCC's **Future of Research on Social Technologies** workshop in November.

In their response, the authors focused on a few specific questions from the RFI, one of which asked how the risks associated with making model weights widely available compare to those associated with non-public model weights. The authors responded that the majority of risks associated with generative models are minimally exacerbated by making model weights widely available. Most of the risks related to generative models are inherent to these models, because of their capacity to quickly generate enormous amounts of believable content based on user inputs and their almost limitless application areas. Making the model weights publicly available does not affect the functionality of generative models, and so currently there is little evidence that making the weights widely available creates significant additional risk beyond what could already be done with proprietary or closed systems. One risk that could potentially be worsened if weights for proprietary models are made widely available is the possibility of training data being exposed. It is unlikely that model weights could be reverse engineered to expose training data, but it has not been shown to be mathematically impossible. However, in our response we emphasized that, because generative models are likely to continue to be used heavily by the general public, the biggest risks, in our opinion, come from not making weights to representative foundation models openly available. Denying researchers and interested community members access to some model weights for proprietary models will prevent society from gaining a better understanding as to how these models function and how to design more inclusive and accessible models.



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AI Models *(continued)*

Continuing the practice of releasing closed models will continue to perpetuate a lack of diversity in tech and will prevent certain kinds of research from being conducted, such as bias audits of these models, which large tech companies are not incentivized to conduct. Education of the future workforce is another incredibly important consideration. The United States can not hope to maintain leadership in the field of generative AI without training the future generation of developers on these types of models in graduate and post-graduate education. It is important that students can explore these models during their education to understand their basic functionality, and to learn how to incorporate ethical considerations in developing new models. Allowing only large tech companies to possess the tools to train the next generation could also result in siloed thinking, and these organizations may overlook a holistic education that access to these models can provide in favor of a more efficient learn-as-needed framework. In our response, we also highlighted the importance of establishing a culture of openness surrounding these models' development, emphasizing that establishing such a culture can be as important as regulating these technologies. If there is an expectation for tech companies to create generative models in a transparent fashion, then future regulation becomes much easier to conduct.

Finally, the CCC stressed the need for additional research on foundational models, citing the public's current lack of knowledge about how these models actually function and arrive at the results they output. In our response, we listed a number of unanswered research questions that researchers, scientists, scholars, and experts in social issues are poised to start answering, provided they receive the open access they need to the kinds of large foundation models that industry is now exploiting. Our continued success as a society depends on it.

Read the full CCC response [here](#).

FY24 Budget Update: Congress Closes Out Fiscal Year with Generally Poor Budgets for Research Agencies; NSF and Defense Research Receive Significant Cuts



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By Brian Mosley, Associate Director, Government Affairs

Note: parts of this article originally ran on the CRA Policy Blog in [two posts](#) that correspond to when Congress approved both halves of the Fiscal Year 2024 Federal budget.

In a two-stage process in March, Congress approved, and President Biden signed into law, the final funding levels for the **Fiscal Year 2024 Federal Budget** (FY24). The first part of the process was approved on March 8th, and it included the budgets for the National Science Foundation (NSF), the National Institute of Standards & Technology (NIST), the Department of Energy's Office of Science, and NASA. The second part, which contained the budgets for the Department of Defense (DOD) research accounts and the National Institutes of Health (NIH), was approved on March 22nd.

While it is good that the FY24 budget has been finalized, the specifics are not good for the country's researchers. Most of the federal science agencies will be flat funded or will receive cuts, with some, particularly NSF and the DOD basic research accounts, receiving significant reductions to their budgets.



Budget Update (continued)

National Science Foundation:

	FY23 Final	FY23 House	FY23 Senate	FY24 Final	\$ Change	% Change
NSF Total	\$9.90B	\$9.63B	\$9.50B	\$9.06B	-\$840M	-8.5%
R&RA	\$7.80B	\$7.87B	\$7.60B	\$7.18B	-\$620M	-7.9%
EDU	\$1.37B	\$1.01B	\$1.23B	\$1.17B	-\$200M	-14.6%

There is no sugarcoating this news, this is a bad budget for NSF. But it does require some backstory to understand what is happening. Regular readers of the CRA Policy Blog will recall that NSF received a [historic increase for their Fiscal Year 2023 budget](#). However, it was done in an unusual way. The funding was placed in the supplemental funding section of the FY23 Omnibus, not in the section that contains NSF’s baseline budget. That means, from a certain point of view, NSF’s baseline budget did not increase last year. However, the appropriators put language in the omnibus bill resetting NSF’s baseline to the higher number.

Fast forward to the week of March 8th and Congressional appropriators are setting NSF’s baseline back to the [FY22 levels](#) (which are: Total, \$8.84B; RRA, \$7.20B; and EDU, \$1.01B). By that comparison, the agency’s topline and EDU budgets are getting slight increases, while RRA is mostly flat. However, keep in mind NSF is doing all the new operations within the TIP Directorate, which received the majority of NSF’s FY23 increase, so this is a real cut to NSF’s budget and its operations.

In terms of policy details, the appropriators say a lot of good things about NSF in the [explanatory statements section of the FY24 budget documents](#). The appropriators support NSF’s work in artificial intelligence, quantum information sciences, and notes the [first awards with the NSF Engines program in the TIP Directorate](#). The statements also support NSF’s efforts with the [NAIRR program](#). There are also no restrictions on any broadening participation efforts at the agency, which were included in the House written (though never advanced) funding legislation.

However, all this praise is for not with such a large cut to the agency’s budget. The point about the NSF Engines program is particularly noteworthy, as it’s unclear how NSF can run that program as envisioned and fund their core research programs at the levels specified by Congress. Something will have to give.

It’s hard to tell where this budget is coming from. The science policy community in Washington has been hearing all year from members of Congress and their staff that, though “tough choices would have to be made,” NSF would be looked after. This appears more like NSF was overlooked in favor of other priorities.

Department of Defense S&T

	FY23 Final	FY23 PBR	FY23 House	FY23 Senate	FY24 Final	\$ Change	% Change
DOD 6.1	\$2.92B	\$2.48B	\$2.53B	\$3.22B	\$2.63B	-\$290M	-10%
DOD 6.2	\$7.80B	\$6.01B	\$6.73B	\$7.14B	\$7.60B	-\$200M	-2.6%
DOD 6.3	\$11.71B	\$9.33B	\$10.14B	\$10.00B	\$11.29B	-\$420M	-3.6%
DARPA	\$4.06B	\$4.39B	\$4.12B	\$4.09B	\$4.12B	+\$60M	+1.5%

As with NSF’s final FY24 budget, there is no sugarcoating the news with the Defense research accounts: these are bad budgets. However, from a paradoxical viewpoint, they are generally better than what the [Administration requested in March of last year](#). Before going into that, let’s get into the specific budget numbers.



Budget Update *(continued)*

All three of DOD S&T's accounts do badly relative to their previous year's budgets. Basic Research (6.1), which is the main Defense Department supporter of fundamental research at US universities, received a big cut of 10 percent: going from \$2.92 billion in the FY23 to \$2.63 billion in FY24, a cut of \$290 million. The details within the 6.1 accounts paint a pretty grim picture: the Army, Navy, and Air Force's "University Research Initiative" subaccounts are cut at 20, 27, and 10 percent, respectively.

The Applied Research (6.2) account is hit with a cut too, though not as significant. The 6.2 account received a 2.6 percent cut, going from \$7.80 billion in FY23 to \$7.60 billion in FY24, a loss of \$200 million. Finally, Advanced Technology Development (6.3) would also receive a cut, going from \$11.71 billion in FY23 to \$11.29 billion in FY24, a cut of \$420 million, or 3.6 percent.

DARPA is the only bright spot among the defense accounts, escaping any proposed cuts but getting flat funded. The agency would see a 1.5 percent, going from \$4.06 billion in FY23 to \$4.12 billion in FY24, an increase of \$60 million.

Here is the paradoxical part: when compared against the President's requested budgets (PBR), these accounts received increases (except DARPA which would receive a cut relative to the PBR). Here are the percent differences when comparing FY24 Final vs FY24 PBR:

DOD 6.1: +26 percent

DOD 6.2: +21 percent

DOD 6.3: +21 percent

DARPA: -6.1 percent

In many ways this is a reflection of two things. First, the President's requested budget for the DOD research accounts was quite bad. And second, Congress upped the accounts from those requested budgets. So, from Congress' perspective, they did these accounts a favor. This only demonstrates the importance of the Administration submitting a good request to start the process; otherwise, it's easy to be in a budgetary hole that one never gets out of.

National Institute of Standards & Technology

	FY23 Final	FY23 House	FY23 Senate	FY24 Final	\$ Change	% Change
NIST Total	\$1.63B	\$1.47B	\$1.45B	\$1.46B	-\$170M	-10.4%
STRS	\$953M	\$1.02B	\$1.02B	\$1.08B	+\$127M	+13.3%

The situation with NIST's budget is quite unusual and confusing. CRA is performing a topline budget comparison above, but that muddies the waters in understanding the full extent of what is happening at the agency. Congress has used NIST as a vehicle for lots of Congressional directed funding (meaning earmarks) for the last several years. That makes a year-to-year comparison of their budget very difficult. [AIP's FYI Budget Tracker](#) has done the hard work of keeping track of the specifics.

When looking at the above chart, a data point to keep in mind: there were \$300 million worth of earmarks in NIST's FY24 topline budget, with \$220 million in NIST STRS alone. Looking only at NIST's base budget, according to AIP FYI, it will drop 8 percent to \$1.16 billion. And the NIST construction account will be cut by a third. This isn't great news for the agency, as it has a [major maintenance backlog with its facilities](#).

In terms of policy direction, there are a bunch of good things said about the agency covering topics like AI, cybersecurity, quantum, and other matters. The appropriators even provide \$10M for the new [AI Safety Institute](#). But that is fairly cold comfort in light of such sobering budgets.



Budget Update (continued)

DOE Office of Science & ARPA-E

	FY23 Final	FY23 House	FY23 Senate	FY24 Final	\$ Change	% Change
DOE SC Total	\$8.10B	\$8.10B	\$8.43B	\$8.24B	+\$140M	+1.7%
ASCR	\$1.07B	\$1.02B	\$1.02B	\$1.02B	-\$50M	-4.7%
ARPA-E	\$470M	\$470M	\$450M	\$460M	-\$10M	-2.1%

Among the few “winners” of the research agencies FY24 budgets, most of the programs within DOE’s Office of Science were flat funded or received slight cuts, with a few getting slight increases. These numbers are a compromise between the **House’s flat funding** (\$8.10B) versus the **Senate’s increase** (\$8.43B). The ASCR program in particular was set to get roughly the same budget in both the House and Senate plans. And ARPA-E receiving a relatively slight cut is to be expected in this budget environment.

In the **explanatory statement for the Energy & Water accounts**, the appropriators provided Senate levels of funding for DOE’s AI, machine learning, and QIS efforts within the Office of Science. They also provided FY23 level funding for the department’s FAIR and RENEW programs, whose aims are to expand and diversifying the researcher workforce and institutions that DOE works with; the House plan had zeroed out the budgets of these programs. There are no additional policy details or direction for ARPA-E.

NASA

	FY23 Final	FY23 House	FY23 Senate	FY24 Final	\$ Change	% Change
NASA Total	\$25.4B	\$25.4B	\$25.0B	\$24.9B	-\$500M	-2.0%
Science	\$7.80B	\$7.38B	\$7.34B	\$7.33B	-\$470M	-6.0%

NASA Science was the hardest hit part of NASA’s budget. Reading through the explanatory statements, it appears that the Congressional appropriators have serious questions about how NASA is handling multiple major projects, particularly the Mars Sample Return mission (several paragraphs in the explanatory statement are devoted to the MSR alone). There is also this line in the explanatory statements: “The agreement notes that there has not been consultation with some Members of Congress about NASA’s decision to move forward with workforce reductions before a fiscal year 2024 bill was enacted and notes concern that NASA’s actions have contributed to serious losses in NASA’s high-skilled workforce.” This is likely in reference to announced layoffs at the **Jet Propulsion Laboratory in early February**, which caught many policymakers off guard.

National Institutes of Health (NIH)

	FY23 Final	FY23 House	FY23 Senate	FY24 Final	\$ Change	% Change
NIH Total	\$47.50B	\$48.60B	\$49.22B	\$48.68B	+\$1.18B	+2.5%
ARPA-H	\$1.50B	\$500M	\$1.50B	\$1.50B	0	0

Finally, we come to the National Institutes of Health (NIH). The agency would also be a relative winner in FY24, escaping cuts but effectively flat funded. At the topline budget, the agency would go from \$47.50 billion in FY23 to \$48.68 billion in FY24, an increase of \$1.18 billion or 2.5 percent. Additionally, ARPA-H (or Advanced Research Project Agency, Health) would be flat funded, receiving the same amount in FY24 that it received in FY23: \$1.50 billion.

Conclusion

These budgets have already passed Congress and been signed into law by President Biden. For better or worse, Fiscal Year 2024 is finally complete.



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Budget Update (*continued*)

This is not an ideal outcome to this budgetary year. In fact, FY24 has been a particularly zero-sum environment and that is reflected in the research accounts. Keep in mind, House Republicans had adopted the position, at the beginning of 2023, to **cut overall Federal spending to FY22 levels**. A grim final budget for this year is not unexpected, but this is much worse than what either the House or Senate Appropriations Committees had been telegraphing during the year.

CRA has publicly voiced its **concerns and frustrations with these budgets** on behalf of the computing and information technology research community. We have pointed out the likely negative impacts these budgets will have on the country's research enterprise, with the reduced quantity of research, the number of researchers, and the number of students educated in key fundamental areas of computing and other fields of discovery. It will also have negative impacts in areas of significant national interest like artificial intelligence, quantum computing, high-performance computing, and cyber security. All while our international competitors are **doubling down on their investments in R&D**. CRA will continue to make the case that the next fiscal year, Fiscal Year 2025, which the **process is already underway**, can't follow down the road of cuts as far as research is concerned.

CRA Statement Expressing Serious Concerns About Fiscal Year 2024 Funding Levels at the National Science Foundation and Other Key Federal Research Agencies



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By Brian Mosley, Associate Director, Government Affairs

At the beginning of March, Congress passed, and President Biden signed into law, the **Fiscal Year 2024 budgets** for the National Science Foundation, the National Institute of Standards & Technology, the Department of Energy's Office of Science, and NASA. Many of these budgets received funding cuts, some significant, compared to FY23 levels. CRA released the following statement expressing serious concerns about these funding levels:

CRA Statement Expressing Serious Concerns About Fiscal Year 2024 Funding Levels at the National Science Foundation and Other Key Federal Research Agencies

The Computing Research Association (CRA), representing more than 250 computing research organizations in academia and industry, has serious concerns about the significant cuts to Fiscal Year 2024 (FY24) funding levels that have been approved for key Federal research agencies, particularly the National Science Foundation (NSF). These cuts will have a significant impact on American leadership in key technologies. As the National Science Board's recently released **Science & Engineering Indicators** note, the United States has lost significant ground in critical fields related to computing research, such as in artificial intelligence, where the People's Republic of China has surpassed the US in **research publications and patents** and is **educating more doctoral students in S&E fields**.

This situation is only exacerbated by the FY24 appropriations process, where Congress approved an 8.5 percent cut to NSF, a reduction of \$840 million in funding compared to FY23. Also cut were the National Institute of Standards and Technology (NIST) – reduced 10.4 percent or \$170 million vs. FY23 – and the Department of Energy's Advanced Scientific Computing Research (ASCR)



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Fiscal Year 2024 Funding Levels *(continued)*

program (4.7 percent cut, or \$50 million). All three agencies are critical to maintaining U.S. leadership in cutting edge computing research, especially in areas of significant national interest like artificial intelligence, quantum computing, high-performance computing, and cyber security. Innovations in these areas are crucial to our national security and economic future.

These cuts will reduce the quantity of research, the number of researchers, and the number of students educated in key fundamental areas of computing and other fields of discovery at a time when global challenges demand that we increase all these measures. These cuts are occurring at the same time that the [People's Republic of China is increasing its investment in fundamental research](#).

We stand with the [National Science Board in sounding the alarm](#) as the country's lead in several S&E metrics continues to degrade. For the United States to maintain its leadership in these and other S&E fields, we must follow through on the bipartisan promise of the CHIPS and Science Act, which recognized the need for broad investments in fundamental research to fuel innovation and discovery, and find supplemental support for these agencies. Failing to do so risks ceding valuable ground to our adversaries in these critical technologies, as well as the innovations that will lead to technologies not yet imagined.

NSF FY2025 Request: NSF Gets Another Good Budget Request but With Some Qualifications and Unknowns



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Computing Research Association
Government Affairs

By Brian Mosley, Associate Director, Government Affairs

The Biden Administration released their [Fiscal Year 2025 requested budget](#) on March 11th. As we have done in years past, the CRA Policy Blog will write a [series of posts](#) analyzing the assorted agency requested budgets that are important to the computing research community. First up is the agency that [supports 78 percent](#) of all Federally-supported basic research in computer science at academic institutions: the National Science Foundation. The Biden Administration proposes another strong budget for NSF. However, this year is a bit different. With a particularly [bitter funding cut in Fiscal Year 2024](#), combined with the [Fiscal Responsibility Act](#) requirements on the overall Federal budget, the Administration is heavily constrained in their request. A perfect example of that is the fact that this year's request for the agency is over a billion dollars less than what was submitted to Congress in [NSF's FY24 request](#).

A general note: NSF's budget request was prepared before Congress finished its work on the agency's FY24 budget. With that in mind, in the agency's budget documents, you will see they compared the President's request to FY23 (ie: the last year they had approved funding). Since CRA now has some, but not all, of the numbers for FY24, we will compare the President's request against that. There are exceptions, most notably the assorted RRA directorates. Congress does not typically fund at that level, leaving it to NSF to decide how funding is exactly distributed. Since the agency has only had a finalized budget for a few weeks, we can only do a FY23 to FY25 request comparison for those parts of the agency.

Under the [Administration's FY25 plan](#), NSF would see a 12.1 percent increase compared to their FY24 budget approved by Congress earlier this month. NSF would go from \$9.06 billion in FY24 to \$10.2 billion in FY25, an increase of \$1.14 billion. Research and Related Activities (R&RA), the subaccount that contains the funding for research grants, would see a sizable part of that increase, going from



NSF FY2025 Request *(continued)*

\$7.18 billion in FY24 to \$8.05 billion in FY25, a plus up of \$870 million (or 12.1 percent). The STEM Education Directorate (EDU), which contains the agency’s education programs, would also see a sizable increase of \$130 million, going from \$1.17 billion in FY24 to \$1.30 billion under the President’s FY25 plan; that’s an increase of 11.1 percent.

The requested budget would allow NSF to fund an **estimated 36,200 research grants in FY25** (37,000 were funded in FY23), allowing for a 27 percent funding rate. The agency estimates that its activities will **support a total of 357,100 people** in FY25; that number includes senior researchers, other professionals, postdocs, graduate students, and undergrads.

	FY23	FY24	FY25 PBR	\$ CHANGE	% CHANGE
NSF Total	\$9.90B	\$9.06B	\$10.20B	+\$1.14B	+12.6%
R&RA	\$7.80B	\$7.18B	\$8.05B	+\$870M	+12.1%
EDU	\$1.37B	\$1.17B	\$1.30B	+\$130M	+11.1%
CISE	\$1.04B	TBD	\$1.07B	–	–
TIP	\$664M	TBD	\$900M	–	–

CISE Directorate:

The **Computer and Information Science and Engineering Directorate (CISE)**, located within R&RA, and the home for most of the computing research support at NSF, will receive an increase. It would go from an estimate of \$1.04 billion in FY23 to \$1.07 billion for FY25, an increase of \$30 million or 2.9 percent. We do not yet have a budgetary number for CISE for FY24.

The CISE Directorate continues to, “play a leadership role,” in many NSF-wide initiatives, such as, “seminal investments in AI, advanced computing systems and services, quantum information science (QIS), advanced communications technologies, advanced manufacturing, semiconductors and microelectronics, biotechnology, and cybersecurity.”

As should surprise no one, artificial intelligence holds a prominent spot in the directorate’s request. CISE will continue to support the **pilot NAIRR program** with an initial budget of \$30 million. The program is to, “amplify efforts across the federal government to cultivate AI innovation and advance trustworthy AI.” Additionally, the directorate will, “continued support for the National AI Research Institutes.” Tasked with establishing **two additional AI institutes** in the **Biden Administration’s October executive order on AI**, the directorate will also, “significantly broaden participation in AI research, education, and workforce development through capacity development projects such as ExpandAI, through CISE core investments, and through partnerships within the National AI Research Institutes ecosystem.”

In terms of the broadening participation and workforce development space, CISE, “in alignment with an agency-wide emphasis on Creating Opportunities Everywhere...will continue to invest in a broad suite of activities to support broadening participation in research and education.” For example, “the Broadening Participation in Computing Alliances (BPC-A) will serve as broad coalitions of institutions of higher education, K-12 schools, government, industry, professional societies, and other not-for-profit organizations that design and carry out comprehensive programs addressing underrepresentation in the computing and information science disciplines.” Additionally, the directorate will broaden participation in computing by, “increasing engagement in...research projects from MSIs through the CISE-MSI program and will emphasize education and training of more U.S. based students from diverse backgrounds through CISE Graduate Fellowships (CSGrad4US).” **CSGrad4US** is a CRA managed program that aims to increase the number of diverse,

NSF FY2025 Request *(continued)*

domestic graduate students pursuing research and innovation careers in the CISE fields: computer science, computer engineering, or information science.

Other major investments in the CISE request are Advance Wireless Research and Secure and Trustworthy Cyberspace (SaTC). With regard to the wireless research, the directorate will, “continue to invest in research in advanced wireless networks, building on its track record of enabling early-stage successes in 5G through ground-breaking millimeter-wave research,” and, “will accelerate research in areas with potential significant impact on emerging Next-Generation (NextG) wireless and mobile communications, networking, sensing, and computing systems, with a focus on greatly improving the resiliency and intelligence of such networked systems” With regard to SaTC, CISE will invest in, “current and emerging areas of importance for security and privacy,” including, “the application of AI to security, security and resilience of AI systems, security implications of quantum computation and communication, information integrity, and critical infrastructure security.” The directorate will also, “fund programs that strengthen the national cybersecurity workforce pipeline through education, K-12 programs, and funding to universities and colleges.”

TIP Directorate:

The **Directorate for Technology, Innovation, and Partnerships**, or TIP Directorate, enjoys continued priority in the President’s budget plans with a requested budget of \$900 million for FY25, a 36 percent increase over its budget estimate for Fiscal Year 2023. We do not yet have a budgetary number for TIP for FY24.

TIP continues to receive special attention in the President’s budget roll out, as it figures heavily in the Administration’s priorities. In the president’s fuller budget plans, TIP is called out to as key to, “**increase(ing) investments to translate the results of basic research into practical applications and processes that can benefit the Nation.**” Within NSF’s justification document, TIP, “aims to usher in a new era for American innovation, accelerating research to impact and enhancing job and economic growth and national security for decades to come.” With that in mind, the directorate aligns its programs with three pillars: “nurtures new and diverse innovation ecosystems throughout” the nation; advance, “technology development across the range of key technology focus areas specified in the CHIPS and Science Act of 2022;” and create, “opportunities for everyone to engage in the nation’s R&D enterprise.”

With regard to the first pillar, nurturing new and diverse innovation ecosystems, the NSF Regional Innovation Engines (NSF Engines) features heavily. Tasked with, “catalyzing place-based innovation to spur economic and job growth,” particularly in places in the country that have, “not benefited from the technology and innovation booms of the last several decades.” The Engines program awarded the **initial 10 awards spanning 18 states in January**. Additionally, of the initial awards, “two are based in EPSCoR jurisdictions and nine include partners in an EPSCoR jurisdiction; nine include minority-serving institutions and all ten include community colleges; and four are led by industry and nonprofits.”

TIP also, “accelerates the translation of fundamental science and engineering discoveries into innovative new technologies and solutions.” Within this space, the directorate, “optimizes the historic NSF Lab-to-Market Platform, allowing researchers to pursue additional prototyping, demonstration, and scale-up work.” It also introduces, “new translation pathways...facilitating the adoption of NSF-funded research results as secure open-source ecosystems.” The TIP Directorate also, “supports the establishment and operation of testbeds to advance development, integration, deployment, and demonstration of breakthroughs in the key technology focus areas. TIP will also make major investments in artificial intelligence, quantum information sciences, advanced manufacturing, advanced wireless research, clean energy technology, and biotechnology; all these areas will receive significant increases in support, compared to their FY23 budgets.



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NSF FY2025 Request *(continued)*

Finally, the TIP Directorate, “creates opportunities for everyone to engage in the nation’s R&D enterprise.” It does this by working with, “academia, state, local, and tribal governments, industry, and other educational partners to provide practical experiences to diverse learners at every stage of education, from first-time job seekers to experienced workers.”

Conclusions:

For another year, President Biden has shown confidence in NSF and proposed a good budget for the agency. But the optimism of this year’s request should be tempered by the **bad budget that precedes it**. And it is important to keep expectations in check, as the political situation this year makes it highly unlikely that Congress will finish a budget on time, or even in this calendar year. The going view in Washington right now is that any final FY25 budget will arrive well after the election, with an endgame heavily influenced by the outcome of that election. It’s likely to be another long, difficult year. Please keep checking back for more updates.

CRA-Industry Dual Appointment Community Survey



CRA-I

Computing Research Association
Industry

By Helen V. Wright, Manger, CRA-I

Many computing schools/departments are undergoing a transformation in their industry interactions. Notably, there’s a rise in dual appointments within our academic and industry community.

The **Computing Research Association** (CRA)’s newest committee **CRA-Industry** (CRA-I) is actively exploring the evolution of industry interactions and is reaching out for your insights **through this concise survey**. Your participation is pivotal to CRA being able to offer a breadth-of-practices document to the community this summer, highlighting the various arrangements, benefits, and concerns of dual appointments.

Completing the survey is a brief process, and we expect it to take less than 15 minutes of your time. We anticipate being able to share a summary report with the computing research community at CRA’s flagship conference at Snowbird, Utah in July.

Please fill out the survey by May 1, 2024.

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Column Editors

Expanding the Pipeline

Soha Hassoun, Tufts University
Patty Lopez, New Mexico State University



Arizona State University

Dean, School of Technology and Public Health

Arizona State University (ASU) invites inquiries, applications, and nominations for the role of inaugural Dean of the School of Technology and Public Health, a first-in-the-nation school shaping an emerging and critically important field that harnesses the power of technology to address pressing public health challenges and opportunities at the local, national, and global levels.

For more information, please see
<https://apptrkr.com/5025787>

Carleton College

Visiting Assistant Professor

The Department of Computer Science of Carleton College invites applications for a Visiting Assistant Professor position for 2024-2025. This position involves teaching up to four courses spread over two or three 10-week terms, including a mix of introductory and advanced courses, to be selected based on the successful applicant's interests and specialization. We are also open to part-time or part-year appointments.

Candidates with any specialty within computer science are encouraged to apply. A masters in computer science or a

closely related field is required; a Ph.D. or substantial completion of work towards a Ph.D. is preferred.

[View Job Posting](#)

Colby College

DavisAI Postdoctoral Associate

The Davis Institute for Artificial Intelligence at Colby College invites applications for the third DavisAI postdoctoral associate, a one-year appointment renewable for a second year. The successful candidate for this position will have the opportunity to pursue interdisciplinary AI research in a highly collaborative environment, and to shape the future of AI education within the liberal arts context. Candidates with experience in AI approaches to modeling archives, or in science, technology and society, are especially welcome to apply: <http://apply.interfolio.com/140476>

Jane Street

Prefaculty/postdoctoral researcher in type systems

We're looking for type systems researchers to visit our compilers team. You'll work on the design, implementation, and formalization of OCaml extensions we've been building, including stack-allocated values (avoiding garbage collection), unboxed types (avoiding allocation of any kind), and modes for data-race freedom. We would then collaborate to write up this work and submit for publication in top venues. This is an opportunity to see how programming

Position: Associate Dean

California State University, Long Beach

The College of Engineering (COE) at California State University, Long Beach is searching for an Associate Dean for Research and Graduate Programs. The COE has an enrollment of 6,172; majors in six departments: Biomedical Engineering, Chemical Engineering, Civil Engineering and Construction Engineering Management, Computer Engineering and Computer Science, Electrical Engineering, and Mechanical and Aerospace Engineering. The Position Description with the Required qualifications; Preferred qualification and the Duties are given in the following web page with an icon to apply.

<https://careers.pageuppeople.com/873/lb/en-us/job/536163/associate-dean-for-research-and-graduate-studies-college-of-engineering>

The College of Engineering at CSULB seeks to recruit faculty, staff, and administrators who enthusiastically support the University's strong commitment to the academic success of our students, including students of color, students with disabilities, students who are first generation to college, veterans, students with diverse socio-economic backgrounds, and students of diverse sexualities and gender expression. CSULB seeks to recruit and retain a diverse workforce as a reflection of our commitment to serve the People of California, to maintain the excellence of the University, and to offer our students a rich variety of expertise, perspectives, and ways of knowing and learning.

Review of applications to begin March 19, 2024. Position open until filled (or recruitment canceled).

language concepts can be put into practice in the hands of a large and expert team of functional programmers.

The ideal candidate will have a faculty offer in hand and will delay their start at a top research university in order to work with us for one year. We are also open to evaluating excellent candidates looking for a more typical postdoctoral appointment, for up to two years.

Full details and next steps are at <https://www.janestreet.com/vrp-prefaculty>.

Northern Illinois University

Founding Director of Cybersecurity

Department of Computer Science - College of Liberal Arts & Sciences

The Computer Science Department at Northern Illinois University (NIU) invites applicants for the department's founding Director of Cybersecurity. This Director will be a tenured or tenure-track faculty appointment in Computer Science at the Associate Professor or Professor rank to start in August 2024.

The University: NIU values diversity, equity, and inclusion (DEI). We expect candidates to equally value these principles and to serve as active participants and allies in working toward DEI initiatives.

NIU is a public research university in DeKalb, IL, an affordable and growing community within a commutable distance from Chicago and Rockford metropolitan

areas and less than an hour's drive from two of the U.S. Department of Energy's (DOE) national laboratories Argonne National Laboratory and the Fermi National Accelerator Laboratory. Our 16,000+ student body is diverse, with many first-generation, racially, and culturally diverse students and international students from 73 countries. NIU prides itself on student-centered approaches to teaching and research and has social mobility, equity, and inclusion at the heart of its mission. Recently, NIU was nationally recognized as a top college for diversity and LGBTQ+ students and has been named one of the Great Colleges to Work For two years in a row.

NIU is committed to fostering a diverse and inclusive academic global community; as an AA/EEO employer, NIU considers qualified applicants for employment without regard to, and does not discriminate on the basis of, gender, race, color, national origin, sexual orientation, religion, protected veteran status, disability, or any other legally protected status.

The Department: The Department of Computer Science is vibrant and experiencing significant growth. It offers B.S., M.S., and Ph.D. degree programs in Computer Science, with over 750 undergraduate majors and 200 graduate students. Support for faculty research programs comes from industry and prestigious agencies such as the National Science Foundation, National Institutes of Health, and U.S. Departments of Energy and Defense. Our faculty and students benefit from collaborations with research staff from industry and the nearby DOE laboratories, Argonne and Fermilab. The

Department values faculty research programs that enlist graduate and undergraduate students and supports such programs with commensurate teaching assignments.

Position Summary:

The Founding Director will provide vision and leadership to the university to create a nationally recognized program in cybersecurity. The Director will report to the Chair of the Computer Science department and is responsible for establishing and leading academic programs and outreach efforts to support cybersecurity workforce development. The Director will play a principal role in recruiting the first cohort of faculty expected to be hired in Fall 2025 in this substantial and growing field.

Essential Duties and Responsibilities:

- Lead efforts to create cutting-edge certificate and degree programs, including online programs, that are compliant with and recognized as part of national frameworks.
- Develop a robust vision and sustainable funding model for an agile cybersecurity workforce development program that includes strategies and plans to acquire external funds to support program development and outreach efforts.
- Identify opportunities for private- and public-sector partnerships that seek to develop cybersecurity solutions, particularly as those opportunities apply to employment for students as interns and career opportunities upon their graduation.

- Represent the department's cybersecurity programs by liaising and collaborating within the university and with external private- and public-sector cybersecurity groups.
- Promote the cybersecurity programs and recruit students.
- Recruit personnel in support of the cybersecurity programs.
- Monitor, maintain, and report on the quality and viability of the cybersecurity programs.
- Oversee and contribute to the development of new courses related to cybersecurity.
- Teach cybersecurity courses each academic year.

Minimum Required Qualifications:

- Earned a doctorate in cybersecurity, computer science, or closely related field
- Tenurable at the rank of associate or full professor.
- Five years of experience in cybersecurity in government, industry, or academia.
- Experience in developing cybersecurity courses or programs.
- A proven track record of acquiring external funding.

Additional Requirements:

- Superior communication skills and strong interpersonal skills to work effectively in a collegial, multicultural environment.

Preferred Qualifications:

- Well-established cybersecurity connections in industry or government.

- Success as leader of a department, college, or university-level initiative.
- At least three years of administrative experience in some capacity.
- Experience with NCAE-C CD designation and the CyberCorps SFS and/or Department of Defense Cyber Scholarship programs.
- National recognition as a scholar in cybersecurity.
- Experience with technology transfer and intellectual property protection, including open-source licenses and new venture creation.
- Experience working in settings with students from diverse cultural backgrounds. A commitment to improving their access to higher education and achievement.

Salary:

- Commensurate with experience and qualifications. Position includes a robust benefits package. This is a full-time, twelve-month faculty position.

Application Procedures:

Prospective applicants should visit <https://employment.niu.edu/postings/76108> to apply and submit the following materials:

- Curriculum vitae (no page limit)
 - » Should include links to professional website(s) and profiles on platforms such as Google Scholar, ResearchGate, DBLP, or similar.
- Cover letter (2 page limit)
 - » Should describe the applicant's interest in the position and how the applicant's

experience and expertise links to the position. Should also describe the applicant's vision for a cybersecurity center, teaching philosophy and practices, and past, present, and potential experiences that will inform their efforts to advance equity for diverse communities, including populations that are historically underrepresented or marginalized in the field, to provide a welcoming, inclusive learning environment for all students.

- Contributions to diversity statement (2 page limit)
 - » Should describe how their past, present or potential teaching, research, and life experiences will inform their efforts to advance equity for diverse communities, including populations that are historically underrepresented or marginalized in the field, to provide a welcoming, inclusive learning environment for all students.
- Name and contact information of at least four references. References will not be contacted without the applicant's foreknowledge.

There is no priority consideration date for this search, which means applications will continue to be accepted until an offer is extended.

Background check/EEO statement:

In compliance with the Illinois Campus Security Act, before an offer of employment is made, the university will conduct a pre-employment background investigation, which includes a criminal background check. In accordance with applicable

statutes and regulations, NIU is an Affirmative Action/Equal Employment Opportunity employer and does not discriminate on the basis of race, color, national origin, ancestry, sex, religion, age, physical and mental disability, marital status, veteran status, sexual orientation, gender identity, gender expression, political affiliation, or any other factor unrelated to professional qualifications, and will comply with all applicable federal and state statutes, regulations and orders pertaining to nondiscrimination, equal opportunity and affirmative action. NIU recognizes Dual Career issues. In compliance with federal law, all persons hired will be required to verify identity and eligibility to work in the United States and to complete the required employment eligibility verification document form upon hire.

Oakland University

Special Instructor of Computer Science and Engineering at Oakland University

Position Title:

Special Instructor of Computer Science and Engineering at Oakland University

Job Description:

The Department of Computer Science and Engineering at Oakland University (OU) invites applications for two special instructor positions to begin on August 15, 2024. In addition to teaching, these positions also require engagement in outreach programs and institutional and public service.

Applicants must have a completed PhD in Computer/Information Sciences, or related fields by the beginning date of

employment. Candidates must have excellent communication skills, strong ability to teach in general Computer/Information Sciences discipline, specialties in AI, cybersecurity, data science are highly regarded, willingness to learn new teaching techniques and technologies are highly valuable. Prior teaching experience in a comparable college environment is preferred. Candidates should have an appreciation of and commitment to the value of diversity and working with a diverse faculty and student body.

Minimum Qualifications:

Applicants must have a completed PhD in Computer Science, Information Technology or closely related fields by the beginning date of employment.

School/College/Dept Summary:

The Department of Computer Science and Engineering offers BS degrees in Computer Science, Information Technology, Cybersecurity and Artificial Intelligence; MS degrees in Computer Science, Cybersecurity, Software Engineering and Information Technology and Artificial Intelligence; Ph.D. degrees in Computer Science and Informatics.

OU Standard:

The University is located on 1,443 acres of scenic land in the cities of Rochester Hills and Auburn Hills in Oakland County, Michigan. The University offers 142 bachelor's degree programs and 138 graduate degree and certificate programs. Academics include programs in the College of Arts and Sciences, School of Business Administration, School of Education and Human Services, School



**OAKLAND
UNIVERSITY**

Associate / Full Professor CSE and/or ECE

The Computer Science and Engineering (CSE) and Electrical and Computer Engineering (ECE) departments within the School of Engineering and Computer Science (SECS) at Oakland University (OU) seek to hire a faculty member at the associate or full professor level with research and teaching interests in an interdisciplinary research area that falls within one or more of the SECS' five research thrusts:

- Advanced Manufacturing
- Autonomous & Connected Systems
- AI, Cybersecurity & Data Analytics
- Bioengineering
- Power & Energy

The position will begin August 15, 2024.

The faculty member recruited for this position could have joint appointments in both departments but will have a tenure home in either the CSE department or the ECE department. Outstanding candidates will have established scholarly activity and exemplary teaching records.

Candidates that are collaborative and transcend traditional disciplinary boundaries are especially encouraged to apply.

**If interested, please apply:
<https://apptrkr.com/5086806>**

of Engineering and Computer Science, School of Health Sciences, School of Medicine and School of Nursing. As an anchor institution in southeastern Michigan that is dedicated to building ongoing, collaborative relationships, Oakland University embraces community

and civic engagement to enhance the lives of its students and positively impact the broader community. Learn more about Oakland University's Mission & Vision and Strategic Plan.

Special Instructions:

Review of applications will begin on April 1, 2024 and continue until the position is filled. Applicants should submit a Cover Letter, CV, Teaching Statement, Diversity Statement, transcripts (unofficial) and contact information for three references.

Link:

<https://jobs.oakland.edu/postings/30426>

EEO:

Oakland University is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and minorities.

Oregon Health and Science University

Professor of Biomedical Data Science

The Center for Biomedical Data Science (CBDS) at the Knight Cancer Institute (KCI) at Oregon Health and Science University (OHSU) is searching for multiple tenured or tenure-track faculty positions at all ranks (Assistant Professor, Associate Professor, and/or Professor) in the area of Biomedical Data Science. Faculty will be members of CBDS with primary tenure home in the Division of Oncological Sciences (DOS) at KCI. A secondary appointment in a different unit at OHSU is possible depending on the candidate's discipline and research focus.

The newly founded CBDS, as a nexus for research in data science at OHSU, is dedicated to advancing precision health in general, and precision early cancer detection and therapies in particular, by analyzing large, complex, multi-modal multi-scale data through the development and implementation of novel computational analytical tools and methods. The data science goals include identifying biomarkers associated with response and resistance to therapy; modeling etiologic causes of cancer; modeling the development and progression of cancer; organizing and processing large data resources to create harmonized datasets; and mining datasets for novel subtypes of diseases. The field analyzes all kinds of cancer data, including omics, anatomical imaging to molecular imaging to nanoscale imaging, cellular and pathway interactions, electronic medical records, and published literature. A key area of focus is integrating datasets, such as combining public and private datasets or merging data across modalities, and doing novel analyses on integrated datasets.

To serve these goals, CBDS seeks interdisciplinary scholars whose work spans diverse areas, including but not limited to: machine learning, computer vision, natural language processing, AI-enabled health, computational biology, systems biology, bioinformatics, biostatistics, dynamic modeling, responsible and interpretable AI, multi-scale multi-modal data integration, and data analytics and visualization.

Rice University

Executive Director for Research Initiatives

The Ken Kennedy Institute at Rice University (<https://kenkenedy.rice.edu/>) was established in 1986 and is dedicated to advancing research in AI, Data, and Computing. The Institute seeks an Executive Director for Research Initiatives. In collaboration with the Faculty Director and its Advisory Board, the Executive Director will develop plans to achieve the Institute's mission and strategic priorities and will be responsible for implementing these plans. The emphasis is on fundraising and community-building internally and externally. The ideal candidate will have a Ph.D. in a related field and prior work in Data Science and AI.

Further information and application instructions are available at <https://bit.ly/4a3gizw>.

St. Olaf College

Visiting Assistant Professor of Computer Science

The MSCS Department at St. Olaf College seeks a full-time, one-year visiting assistant professor in Computer Science beginning August 2024, with potential for additional years. Highest consideration will be given to candidates with demonstrated effectiveness teaching undergraduates and who can contribute broadly to our growing program. Candidates should have a Ph.D. in Computer Science or closely related field (ABD considered) and be interested



Stony Brook University



Lecturer (Lecturer/Assistant/Associate/Full Professor of Practice), Data Science, Department of Applied Mathematics and Statistics, College of Engineering and Applied Sciences

Location: Department of Applied Mathematics and Statistics

Open Date: Feb 16, 2024

Deadline: May 01, 2024 at 11:59 PM Eastern Time

Description

Stony Brook University's Department of Applied Mathematics and Statistics, in collaboration with the Department of Computer Science, invites applicants for two (2) non-tenure track teaching faculty positions in Data Science with an expected start date of Fall 2024.

The selected candidates should hold a Ph.D. degree and have at least one year of teaching experience in statistics or data science - with solid training in statistics and programming expertise (R and Python). They should have a strong commitment to excellence in teaching. They should be committed to promoting diversity, equity, and inclusion in statistics and data science education. The selected candidate will hold the official title of Lecturer or a local title of Assistant/Associate/Full Professor of Practice, contingent upon qualifications.

As a Lecturer in Data Science, you will have a unique opportunity to inspire and guide Data Science students towards a promising career in machine learning, statistical analysis, big data mining, and related fields. You will be an integral part of our dedicated faculty in the Departments of Applied Mathematics and Statistics, and Computer Science, contributing to our mission of producing future generations of data scientists.

Teaching requirement: Three (3) courses per semester. The lecturer is expected to teach courses including, but not limited to, probability theory, mathematical statistics, applied statistics, machine learning (R and Python), and statistical computing (R and Python). Course assignment is at the Department Chair's discretion. Furthermore, the lecturer is expected to assist in engaging in mentorship for students, contributing to program initiatives, and providing service to the department, College, and University community.

Qualifications

Required Qualifications:

Ph.D. degree (or foreign equivalent). One (1) year of teaching experience in statistics or data science. Programming expertise in R and Python.

Preferred Qualifications

Ph.D. degree (or foreign equivalent) in statistics, data science, or related field. Additional years (2) of teaching experience in statistics or data science.

Application Instructions

To apply, visit <https://apptrkr.com/5034203>.

Applications received by March 31, 2024 will receive full consideration. Candidates who apply after March 31, 2024 will be considered on a rolling basis until the position is filled.

Please apply here with your required documents as listed below:

- Cover Letter
- Curriculum Vitae
- Teaching Statement
- Three professional references

All application materials must be submitted online. Please use the Apply Now button to begin your application. For technical support, visit Interfolio's Support Site (<https://support.interfolio.com/>) or reach out to their Scholar Service Team at help@interfolio.com or (877) 997-8807.

For questions regarding this position, please contact search chair, Professor Wei Zhu at <http://wei.zhu@stonybrook.edu>.

Department Description:


Please visit our website at www.ams.stonybrook.edu

Special Notes:

This is a non-tenure-track position expected. FLSA Exempt position, not eligible for overtime provisions of the FLSA. Internal and external search to occur simultaneously. The selected candidate must successfully clear a background investigation.

In accordance with the Title II Crime Awareness and Security Act, a copy of our crime statistics is available upon request. It can also be viewed online at the University Police website at <http://www.stonybrook.edu/police>.

Stony Brook University is committed to excellence in diversity and the creation of an inclusive learning, and working environment. All qualified applicants will receive consideration for employment without regard to race, color, national origin, religion, sex, pregnancy, familial status, sexual orientation, gender identity or expression, age, disability, genetic information, veteran status and all other protected classes under federal or state laws.



**Lecturer, Assistant/Associate/Full Professor of Practice
Department of Computer Science**

Stony Brook University's Department of Computer Science invites applicants for a teaching faculty position with an expected start date of Fall 2024. The candidate will hold the position of lecturer or assistant/associate/full professor of practice depending on qualification. The selected candidate should hold an MS or Ph.D. in Computer Science or a closely related discipline and should have a strong commitment to teaching. The candidate is expected to teach introductory and advanced undergraduate courses in Computer Science, and possibly graduate courses, depending on experience and interests. We are specifically interested in hearing from candidates with expertise and teaching interest in introductory or advanced programming, systems programming, web, software engineering or networking. Engaging in scholarly research and mentorship of graduate students are encouraged but not mandatory. The department values diversity and seeks candidates who can contribute to a welcoming climate for all students. We strongly encourage qualified women and minority candidates to apply.

Stony Brook University is located approximately 60 miles east of Manhattan on Long Island's beautiful North Shore. It is part of the State University of New York (SUNY) system and is widely regarded as its flagship. The Department of Computer Science currently has 60 faculty members and more than 2000 majors in its BS, MS and PhD programs. Detailed information on the department can be found on its website: <http://www.cs.stonybrook.edu>.

If interested, please apply: <https://apptrkr.com/5070981>

in advancing the College's goals for diversity, equity and inclusion. Review of applications will begin immediately and continue until the position is filled. See the full description and apply at: <https://wp.stolaf.edu/hr/careers/>

Texas A&M University- School of Performance, Visualization, & Fine Arts

Tenure-Track: Assistant Professor of Multimedia Design

The School of Performance, Visualization & Fine Arts (PVFA) at Texas A&M University invites applications for one (1) full time Assistant Professor in Multimedia Design with a nine-month academic appointment beginning Fall 2024. The Technical Arts and Interactive Media Section of the School seeks candidates with expertise in one or more of the following areas:

- immersive storytelling
- interactive motion graphics
- AI-integrated multimedia art
- experimental media art
- A strong background in time-based media and multimedia production is also highly desired

The successful candidate will demonstrate an exceptional approach to their own creative work, developing and maintaining a national and international reputation through exhibitions, lectures, research publications, and other creative outlets. Candidates will be expected to gain visibility through juried creative works, peer-reviewed academic research publications, or both. Priority will be given to candidates who demonstrate the ability to pursue external funding to support their work. They will be able to develop and teach a variety of multimedia related courses at the undergraduate

and graduate levels, playing fundamental roles in teaching, research, and service in building the future of the multimedia curriculum at Texas A&M University and its relationship to the local/global technical arts community.

The School of Performance, Visualization & Fine Arts is a school within the Texas A&M University System and has a dynamic mission with more than 70 faculty and 30 staff members and a projected exponential growth in the next 5 years. The school was formed from three departments/ programs spread across the university: the Department of Visualization, the Department of Performance Studies, and the Dance Science Program. The mission of PVFA places a heavy emphasis on faculty and student collaboration and interdisciplinary work in both scholarly and creative research. Texas A&M University leadership has charged the school with developing innovative research and creative works, public performances, and degree offerings at the undergraduate, graduate, and doctoral levels that build upon our strength in merging art and science, as well as the traditional fields of music, dance, art, and theater. Applicants should consult the school's website to review our academic and research programs (<https://pvfa.tamu.edu/>).

Qualifications

Candidates must hold a terminal degree, M.F.A. or Ph.D., in a related field as described above by the appointment start date. Candidates must be credentialed to teach at the graduate and undergraduate levels and must have a well-developed research

agenda that will inform and advance current trends in the field. Applicants should consult the school's website to review our academic and research programs (<https://pvfa.tamu.edu/>), paying particular attention to our B.S., M.S., and M.F.A. programs in Visualization.

Application Instructions

Interested individuals should apply through Interfolio: apply.interfolio.com/139241 and submit the following materials (embed links to your work, student work, etc. where appropriate):

Cover letter

- Curriculum vitae (embed links to your work/student work you mentor)
- Personal Statement: Your statement should include your philosophy and plans for research, teaching, and service.
- Portfolio of creative work (link to a website preferred)
- Samples of work in progress (optional)
Names and contact information of five (5) professional references

Review of applications will begin 30 days after posting and will continue until the position is filled.

Questions should be directed to Dr. Donald H. House, Chair of Search Committee (email: d-house@tamu.edu).

Equal Opportunity/Affirmative Action/
Veterans/Disability Employer committed to diversity.

Texas Tech University

Assistant Professor of Practice Computer Science

The Department of Computer Science at Texas Tech University invites applications for an Assistant Professor of Practice position starting in Fall 2024. Applicants must have a Master's or Ph.D. degree in Computer Science or related fields by the time of appointment. We are looking for passionate candidates who will contribute to the university's mission through teaching and mentoring students in professional and career preparation. This is a non-tenure track, multi-year renewable appointment. In the sixth year of the appointment, this position is eligible for promotion to Associate Professor of Practice and a continuing appointment status that assures this position like a tenured position. A Ph.D. degree is preferred but not required. The candidate must be prepared to teach large and small classes of undergraduate and graduate students. The selected candidate with a Ph.D. degree will also be offered an opportunity to advance the career development to be considered for a tenure-track position. A cover letter, Curriculum Vitae, teaching statement, and a list of three or more references should be submitted electronically at <http://www.texastech.edu/careers/> using requisition number 36559BR. To ensure full consideration, please complete an application by April 15th, 2024.

Texas Tech University is a Carnegie RI (very high research activity) Doctoral/Research-Extensive, Hispanic Serving, and

state-assisted institution. Located on a beautiful 1,850-acre campus in Lubbock, a city in West Texas with a growing metropolitan-area population of over 300,000, the university enrolls over 40,000 students with 33,000 undergraduate and 7,000 graduate students. As the primary research institution in the western two-thirds of the state, Texas Tech University is home to 10 colleges, the Schools of Law and Veterinary Medicine, and the Graduate School. The flagship of the Texas Tech University System, Texas Tech is dedicated to student success by preparing learners to be ethical leaders for a diverse and globally competitive workforce. It is committed to enhancing the cultural and economic development of the state, nation, and world. With a mild climate, highly rated public schools, and a low cost of living, Lubbock is a family-friendly community that is ranked as one of the best places to live in Texas.

All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, gender expression, national origin, age, disability, genetic information or status as a protected veteran. Questions about these positions should be directed to Prof. Abdul Serwadda, Search Committee Chair, at cs.teachingsearch@ttu.edu. If you need assistance with the application process, contact Human Resources, Talent Acquisition at hirs.recruiting@ttu.edu or 806-742-3851.

Trinity University

*One-Year Visiting Assistant Professor in
Computer Science*

Trinity University, San Antonio, TX

Trinity University is a top-ranked small private liberal arts and sciences university that values high quality undergraduate teaching and supports high impact undergraduate research. We are seeking candidates for a one-year visiting assistant professor appointment in the Computer Science department. A Ph.D. in Computer Science or a related field is required. ABD will be also considered with clear evidence of PhD completion by May 2024. The position will be selected from candidates with expertise in any area of Computer Science. Candidates should demonstrate a passion for teaching courses in computer science, including courses in their domain of expertise, as well as introductory and upper-level courses required for all of our majors.

How To Apply

[Click here to apply](#)

When starting the application, select "Apply Manually." Only complete fields with a red asterisk, which are required. In the "My Experience" section, you **do not** need to complete the "Work Experience," "Education," "Certifications," or "Languages" fields.

In the "Application Documents" field, upload the following, each as a separate pdf file (note: a maximum of five (5) files can be uploaded):

- Cover letter
- Curriculum vitae including the names and contact information for at least 3 recommendation letter writers
- Diversity statement: responding to the prompt: "Trinity University is committed to the value of intentional inclusion. Please provide a brief statement (250-500 words) describing your past efforts as well as your future plans to advance diversity, equity and inclusion in your teaching."
- Statement of the candidate's teaching philosophy and qualifications;
- Statement of the candidate's scholarship that includes a plan to involve undergraduate students.

Applications should be submitted as soon as possible. The search will remain open until the position has been filled. Applications submitted on or before March 31, 2024, will be given full consideration.

Contact Information

Dr. Yu Zhang, Search Committee Chair,
Department of Computer Science, cs-search@trinity.edu.

Trinity University is an equal opportunity employer and as such provides equal opportunity for employment and advancement of all employees without regard to race, color, religion, sex, age, national origin, disability, military/veteran status, sexual orientation, gender identity, gender expression, or any status protected by Federal, State, or Local Laws.

University of Alabama at Birmingham

*Non-tenure-track Assistant Professor in
Teaching*

The **Department of Computer Science** at the **University of Alabama at Birmingham (UAB)** is seeking candidates for a **non-tenure-track assistant professor** in teaching position, starting Fall 2024.

Candidates with teaching expertise in all core computer science topics are sought, with preference given to Programming, Algorithms and Data Structures, Computer Architecture, Data Science/ Machine Learning, Networking, Systems Programming, Operating Systems, Web-based Application Development and Software Engineering. For additional information about the Department, please visit: <https://www.uab.edu/cas/computerscience/>. UAB is a Carnegie R1 research university, Alabama's single largest employer, and an engine of revitalization for Birmingham - Alabama's largest city.

For the complete job announcement and application procedures, see <https://uab.peopleadmin.com/postings/19742>. For more information, please contact the search committee chair Dr. Ragib Hasan (ragib@uab.edu).

University of Cincinnati

Visiting Assistant Professor

The School of Information Technology (SoIT) at the University of Cincinnati (UC) seeks to hire two Visiting Assistant Professors to teach courses in the areas of Cybersecurity, IT Infrastructure, Human Computer Interaction, Applied Machine Learning and Intelligence, or Software Application Development as they relate to Information Technology. For full job description and details on how to apply online, please visit <https://jobs.uc.edu> and search keyword: 95288.

University of Hawaii at Hilo

Instructor of Computer Science

Instructor of Computer Science, position number 84335, UH Hilo, College of Natural and Health Sciences, general funds, full-time, non-tenure-track, nine-month renewable-type appointment, to begin approximately August 2024, pending position clearance and availability of funding.

This position entails teaching lower-division Computer Science (CS) and/or lower-division Data Science (DATA) courses in a small college environment.

For complete description, minimum and desirable qualifications and application instructions, please visit <https://www.schooljobs.com/careers/hawaii.edu> and search for #84335. Note: If you have not applied for a position before using NEOGOV, you will need to create an account.

University of Hawaii at Hilo is an EEO/AA Employer M/W/Disability/Veterans

University of Oklahoma

Assistant Professor of Computer Science - Hybrid Modeling

As part of a sustained, multiyear, strategic growth initiative, the School of Computer Science (CS) in the Gallogly College of Engineering (GCoE) at the University of Oklahoma (OU) seeks applications for an assistant professor position in the area of hybrid machine-learning/first-principles modeling with a targeted start date of Fall 2024. We particularly seek candidates whose core expertise will allow OU to synergistically leverage existing first-principles modeling strengths across GCoE as well as existing strengths in machine learning and data mining in CS. We further seek candidates whose research, teaching, and service have prepared them to be integral contributors to the advancement of our welcoming community. Candidates who fill this position should look to support OU's strategic research verticals and GCoE's strategic plan, and be prepared to engage in collaborative research. We also welcome applicants whose research interests support artificial intelligence (AI)+X and computational-X.

Required Qualifications

- Ph.D. in Computer Science or a related field.
- Able to effectively conduct and lead research.
- Able to effectively form research collaborations.
- Able to effectively teach computer science courses at all levels.

- Able to effectively advise M.S. and Ph.D. students.

See <https://apply.interfolio.com/139322> for details.

University of Oklahoma

Assistant/Associate Professor Positions - Software Engineering

As part of a sustained, multiyear, strategic growth initiative, the School of Computer Science (CS) in the Gallogly College of Engineering (GCoE) at the University of Oklahoma (OU) seeks applications for two positions in the area of software engineering with a targeted start date of August 16, 2024. One position is at the rank of assistant professor and the other is at the rank of either assistant or associate professor. We seek candidates whose research, teaching, and service have prepared them to be integral contributors to the advancement of our welcoming community. We particularly seek applicants with software engineering research interests and expertise related to embedded systems, security, and high-performance computing (HPC). Candidates who fill this position should look to support OU's strategic research verticals and GCoE's strategic plan and be prepared to engage in collaborative research.

Required Qualifications

- Ph.D. in Computer Science, Software Engineering, or a related field.
- Able to effectively conduct and lead research.
- Able to effectively form research collaborations.

- Able to effectively teach computer science courses at all levels.
- Able to effectively advise M.S. and Ph.D. students.

See <https://apply.interfolio.com/139331> for details.

University of South Florida

Computer Science and Engineering invites applications for instructional faculty positions.

The Department of Computer Science and Engineering at USF is seeking to hire instructional faculty positions at the levels of Assistant and Associate Professor of Instruction who can teach a broad range of core and elective courses at the undergraduate and graduate levels in computer science, computer engineering, cybersecurity, and information technology. Special emphasis is on candidates with a strong interest and/or capability in teaching hands-on skills in cybersecurity. Interest or experience in advising student organizations for cybersecurity competitions is a plus. Instructional faculty have the opportunity for professional development and also to pursue research and service. Course releases and buyouts are possible through significant service activities in the department or engagement in sponsored research. Candidates must have completed a PhD in computer science, computer engineering, cybersecurity, information technology, or a related engineering area from an accredited institution. This recruitment is for a non-tenure earning full-time

12-month position. Successful candidates are expected to start in the fall of 2024.

Computer Science and Engineering, at the only metropolitan public AAU university in Florida, has 33 tenure-track/tenured faculty members, 14 full-time instructional faculty, 2 professors of practice, and 7 staff members/advisors, and offers BS, MS, and PhD degrees, serving over 2600 undergraduates, 380 masters, and about 100 PhD students. USF CSE has a strong working relationship with CyberFlorida. The Institute for AI + X is a university-wide research and education center for AI focusing on collaboration across disciplines. Affiliation with the USF Institute for Artificial Intelligence + X is possible for candidates with teaching skills on AI topics. Successful candidates could start in the Fall of 2024. CSE faculty ranks include eleven NSF CAREER awardees, one National Academy of Inventors (NAI) Fellow, three IEEE, three IAPR, three AAAS, and three AIMBE Fellows. USF CSE is in the top 15% of Computer Science departments in US public and private universities. This ranking is according to the most recent Academic Analytics data based on Scholarly Research Index AAD2021 using default weights for grants, articles, conferences, awards, and citations. For the fiscal year 2022-2023, CSE had \$4.5 million in research expenditures with funding from NSF, NIH, IARPA, US Army, and industry.

Established in 1964 and currently led by Dean Robert H. Bishop, the College of Engineering at the University of South Florida is ranked #56 among public institutions (#85 overall) by U.S. News & World Report's 2023-2024 engineering

graduate school rankings. The college serves more than 7,500 students, offering 11 bachelor's programs, nine of which are ABET-accredited, as well as 13 master's and eight doctoral degrees. The college is actively engaged in local and global research activities with \$42.9 million in research expenditures for the fiscal year 2021-2022. The college has 12 major research centers and institutes and is actively engaged in local and global research activities focused on cybersecurity, sustainability, biomedical engineering, artificial intelligence, and transportation.

The University of South Florida, a high-impact research university dedicated to student success and committed to community engagement, generates an annual economic impact of more than \$6 billion. With campuses in Tampa, St. Petersburg and Sarasota-Manatee, USF serves approximately 50,000 students who represent nearly 150 different countries. For four consecutive years, U.S. News & World Report has ranked USF as one of the nation's top 50 public universities, including USF's highest ranking ever in 2023 (No. 42). In 2023, USF became the first public university in Florida in nearly 40 years to be invited to join the Association of American Universities, a prestigious group of the leading universities in the United States and Canada. Through hundreds of millions of dollars in research activity each year and as one of top universities in the world for securing new patents, USF is a leader in solving global problems and improving lives. USF is a member of the American Athletic Conference. Learn more at www.usf.edu.

An application package should include a cover letter, curriculum vitae, statement describing teaching experience and goals, and the names and contact information of at least three references (one of which must be the current immediate supervisor of the applicant). Applicants must electronically submit the application packet as one PDF file to: <https://www.usf.edu/work-at-usf/careers>. For consideration, please apply to the appropriate position level (Assistant Professor on Instruction search Job ID #36090, Associate Professor of Instruction search Job ID #36091). Applications will be considered starting immediately until the positions are filled.

USF is an equal opportunity, equal access academic institution that embraces diversity in the workplace. The University of South Florida does not discriminate on the basis of age, disability, genetic information, national origin, pregnancy, race/color, religion, sex,

sexual orientation, gender identity, or any other unlawful basis. Dual career couples with questions about opportunities are encouraged to contact the Department chair. To request disability accommodations in the application and interview process, please notify Khoa Dinh, the EOL Coordinator at (813) 974-9272 at least five working days in advance.

Pursuant to Title IX, USF does not discriminate on the basis of sex in education programs or activities that it operates. Such protection extends to students, employees, admission, and employment. Questions or inquiries concerning the application of Title IX may be referred to the Title IX Coordinator or to the U.S. Assistant Secretary for Civil Rights. The most current contact information for the USF Title IX Coordinator and resources can be found on the USF Title IX webpage at www.usf.edu/title-ix.

Virginia State University

Assistant/Associate Professor of Computer Science

The Department of Computer Science in the College of Engineering and Technology at Virginia State University invites applications for a Assistant/Associate Professor position in the areas of Cyber Security; Application Security; Network Security; Artificial Intelligence; Machine Learning; Blockchain and Data Science starting in August 2024. The appointment level will be made commensurate with experience. This is a tenure-track position with primary responsibilities for undergraduate and graduate classroom face-to-face and online instruction, undergraduate and graduate advising, research, and university service.

Strong candidates will have a PhD degree in computer science or closely-related field, documented success in teaching at the college level, experience with both classroom and online modes of instruction, and research and development experience in computer science.

Further information and application instructions are available at <https://www.jobs.virginia.gov/jobs/1e40a6f3-632a-42ae-bc61-135c5aaed1c7>