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

## CRN At-A-Glance

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# CRA Update: Keeping you in the know Join CRA at the ACM Federated Computing Research Conference 2023 

CRA is planning several activities at the ACM Federated Computing Research Conference (FCRC) 2023 in June in Orlando, FL. FCRC assembles a spectrum of affiliated research conferences and workshops into a week-long, co-located, meeting. CRA will host a plenary panel session in honor of its 50th anniversary, a workshop on Computing Research in Industry, an information session on UR2PhD, a program that focuses on engaging more women in computer science PhD programs, and an academic careers workshop for graduate students and post-docs considering teaching-oriented faculty
 positions. Details on each of the activities are below:

CRA-I: Workshop on Computing Research in Industry
June 18th, 12:30-5:15pm

Companies are increasingly investing in computer science research to support their strategic goals. This workshop will not only look at what it means to do computing research in an industrial setting, but give examples of important areas (such as Artificial Intelligence) that are currently being prioritized. The key differences of doing research in an industrial setting compared with an academic setting will be discussed and ideas will be shared for how universities might best prepare their students for a career in industrial research.

This workshop is now open to the public; register here. If you are a student interested in attending CRA-l's workshop, please contact Helen Wright (hwright@cra.org) regarding a complimentary registration. See the full agenda here.

Plenary Panel: Reflecting on 50 Years of Computing Research, and Future Outlook June 20th, 4:15-5:15pm

In recognition of CRA's 50th anniversary last year, CRA Board Member Mary Hall will moderate a plenary panel reflecting on 50 years of computing research, with an eye toward the future.

Panelists confirmed so far are:

- Hagit Attiya, Technion
- Jack Dongarra, University of Tennessee at Knoxville, 2021 Turing Award Winner
- Mary Hall, University of Utah
- Lizy Kurian John, University of Texas at Austin
- Guy L. Steele Jr., Oracle Labs

Learn more about the featured panelists here.

## UR2PhD Information Session: An undergraduate research to PhD national mentoring program

June 21st, 10-10:30am
CRA will host a brief information session on UR2PhD (pronounced "you are 2 PhD") to introduce the program, describe how departments-including graduate students/post-docs, undergraduate students, and faculty-can get involved, and answer questions.

UR2PhD is a national, virtual program with the goal of vastly increasing the number of women engaging in CS research-from the undergraduate level to the PhD. UR2PhD comprises three pillars: (1) early undergraduate research methods training and community, (2) research mentor training for graduate students and post-docs advising undergraduate researchers, and (3) a bridge program to support undergraduate students from their first research experience through their application to a PhD program.

The session will explain opportunities for participation. Information on how departments can apply to become institutional partners is now available. Institutional partners will work closely with the UR2PhD program leadership beginning in the Summer of 2023 to vastly expand the number of research opportunities for women and gender-marginalized undergraduates, including those from marginalized races and ethnicities, at their institutions. The session will also provide information on how individual students can apply to participate.

Learn more about UR2PhD here.

## CRA-E: Teaching-Focused Academic Careers Workshop

June 21st, 5:30-9:30pm

## Are you a graduate student or postdoc considering an academic career?

CRA-E is organizing a workshop to inform graduate students and postdocs about academic teaching career options.

Options are increasing for PhD recipients who want to pursue a career focused on undergraduate teaching. Most PhD-granting departments have introduced a teaching faculty track, often with academic rank, while many masters-granting and primarily undergraduate institutions are expanding their computer science departments. Teaching-focused faculty often pursue research in their primary technical area with undergraduates or conduct research on computer science education.

This workshop is intended for PhD students and postdocs who want to learn about academic career options with a focus on teaching and gain a better understanding of the landscape of academic positions. Experienced and successful academic leaders as well as junior faculty in different teaching-oriented positions will highlight how to best prepare for the different teaching positions and compare teaching-focused career paths.

Workshop sessions will focus on the responsibilities, benefits, challenges, and opportunities of different teaching-focused career paths, including information on what's needed to be a competitive candidate. The workshop concludes with a networking reception where potential candidates can meet representatives from institutions with teaching focused positions.

## Attending the workshop

To attend, you must register for the workshop as part of your FCRC registration AND complete the CRA-E workshop application. A box meal will be provided to registered participants

Click here for more information and a tentative agenda.

# UR2PhD Seeks Institutional Partners: Apply for Resources to Engage More Women in Undergraduate Research 

The CRA's new Undergraduate Research to PhD program, UR2PhD (pronounced "you are 2 PhD"), is seeking institutional partners who would like support with growing the number of women and other gender-marginalized computing students who participate in undergraduate research and continue on to PhD programs.

UR2PhD is a national, virtual program with the goal of vastly increasing the number of women engaging in CS research-from the undergraduate level to the PhD. UR2PhD comprises three pillars: (1) early undergraduate research training and community, (2) research mentor training for graduate students, and (3) a bridge program to support undergraduate students from their first research experience through their application to a PhD program.

Institutional partners will work closely with the UR2PhD program leadership beginning in the Summer of 2023 to vastly expand the number of research opportunities for women and gender-marginalized undergraduates, including those from marginalized races and ethnicities, at their institutions.

## Institutional partners will receive:

- A \$2K stipend for a local coordinator to help manage and organize undergraduate research activities,
- Priority access for their students to all three pillars of the UR2PhD program, including \$1K stipends each for up to 10 graduate students who participate in the research mentor training program,
- Guidance and support in implementing recruiting and selection strategies that result in a high participation percentage of women and other gender-marginalized students in CS, including those from marginalized races and ethnicities,
- Regular, personalized support from experts in implementing scalable, inclusive undergraduate research programs.


## Institutional partners commit to the following:

- To expand their undergraduate research capacity by recruiting, supporting (with credit or pay), and mentoring at least 20 new researchers in Fall 2023, with at least two students working on each project so that students can receive the benefits of peer collaboration,
- To give undergraduate students credit (or pay) for participating in the virtual research methods course and their research project,
- To designate a local coordinator who is paid a stipend through this project to manage the local recruiting and mentoring effort,
- To have undergraduate students present their work at an on-campus, regional, or national venue,
- To use an advertising, recruitment, and selection process that is likely to result in at least $80 \%$ of the new researchers identifying as women or other gender-marginalized identities, with a disproportionate number from a marginalized race/ethnicity.


## To apply to become an institutional partner, please do the following:

- Make a copy and complete the application form: UR2PhD Institutional Partner Application Form
- Obtain a letter from your department chair expressing their support for this engagement
- Upload both documents to this form: https://forms.gle/6twr6CNM6nuffKRd7

Applications will be accepted and reviewed on a rolling basis until June 15, 2023.

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Information Session at ACM FCRC 2023
June 21st, 10-10:30am
CRA will host a brief information session on UR2PhD to introduce the program, describe how departments-including graduate students/post-docs, undergraduate students, and faculty-can get involved, and answer questions.
Please contact ur2phd@cra.org with any questions.
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# CSGrad4US: Third Year Call for NSF Fellowship Opportunity for CS Bachelor's/Master's Degree Holders to Return for Ph.D. 

# CSGRAD4US 

Computer and Information Science and Engineering Graduate Fellowships mascian

The National Science Foundation (NSF) Computer and Information Science and Engineering (CISE) Directorate recently announced that applications are now being accepted for the third year of the CSGrad4US Graduate Fellowship program. The 3-year fellowships support new Ph.D. students pursuing their degree in a CISE field which includes programs in Computer Science, Computer and Information Sciences, and Computer Engineering.

This program has already changed the lives of 78 people, with 16 participants from Cohort 1 now attending CISE PhD programs and 62 participants from Cohort 2 receiving admissions offers from PhD programs this spring!


CSGrad4US Cohort I Fellows at Grad Cohert for IDEALS, 2023

## Goal and Motivation

The goal is to increase the number of diverse, domestic graduate students pursuing research and innovation careers in the CISE fields. The fellowship program, which will provide 3 -year fellowship opportunities for new Ph.D. students in the computing disciplines, was released in response to the increased demand for people with a Ph.D. in CISE fields, the continued decrease of domestic students pursuing research and completing a Ph.D., and the overall small number of bachelor's degree recipients in CS pursuing graduate school. In particular, the percentage of domestic Ph.D. students in Computer Science graduating has decreased from $69 \%$ in 1985 to $31 \%$ in 2021 [1].

NSF seeks candidates from a broad array of backgrounds and strongly encourages women, African Americans, Hispanics, American Indians, Alaska Natives, Native Hawaiians, Native Pacific Islanders, and persons with disabilities to apply.

## Benefits

- A year-long preparation program, organized by CRA-E and CRA-WP, in which individuals selected for the Fellowship will receive mentoring support in identifying a graduate program, finding a research mentor, and applying to graduate programs; during this year, the individuals will also have opportunities to form a network with one another and with faculty advisors;
- For those who enroll in a qualifying doctoral degree-granting program at an institution of higher education having a campus located in the United States, its territories or possessions, or the Commonwealth of Puerto Rico, an annual stipend of $\$ 37,000$ for three years out of five; and
- Cost-of-education allowance of $\$ 16,000$ per year for the three years noted above to the institution of higher education, which typically covers costs for all tuition, medical insurance, and institutional fees.


## Timeline and Eligibility

To be eligible for the CSGrad4US Fellowship, applicants must (1) have graduated with a bachelor's degree before December 31, 2022, (2) have demonstrate CISE core competency, (3) have not been enrolled in any degree-granting program since January 1 , 2023, (4) have never enrolled in and have no pending application or offer of admission for a doctoral degree-granting program in a CISE discipline; and (5) be prepared to attend graduate school by Fall 2025. Applications for the CSGrad4US Graduate Fellowship are due June 5, 2023.

Please visit https://www.nsf.gov/cise/CSGrad4US/ for all eligibility criteria and additional details and deadlines.

## Applications for the 2023 Cycle are open!

[1] 2021 CRA Taulbee Survey. Stuart Zweben and Betsy Bizot, 2021.

Help support this unique opportunity by...
Forwarding this email to your faculty and alumni
Posting information about the CSGrad4US Fellowship on Social Media
Encourage faculty members to serve as application reviewers (reviewer application) and to mentor participants by serving as individual coaches and area-specific advisors (coach/area advisor application)

## Assessing the Community's Interest on Privacy-Enhancing Technologies (PET)

CRA-I
Computing Research Association
Industry

## By Helen Wright, CRA-I Senior Program Associate

As our world becomes increasingly connected and digital, concerns about data privacy and security are growing. Privacy-Enhancing Technologies (PET) are tools and methods designed to protect personal information and enhance user privacy online. Most companies end up using a combination of different PET to ensure that their data remains private and secure.

The Computing Research Association- Industry (CRA-I) committee is interested in hearing from YOU on this topic. Please fill out this survey here and let us know if you would be interested in a roundtable discussion on this topic.

As technology continues to evolve, it is important that the computing research community, industry in particular, talks about the latest privacy enhancing tools and methods to stay ahead of potential threats to our online privacy. CRA-I is hopeful that we could generate a discussion with a broad community representation that would have an impact on potential next steps in this field whether that be a workshop that dives into a particular topic or something else.

# Computing Research Association to Lead \$IM Community Project to Chart a Pathway Toward Inclusive Computing 


#### Abstract

LEVEL UP, which is an NSF Computing in Undergraduate Education (CUE) Mobilizing project, is a collaboration between CRA, ACM, IEEE-CS, several BPC Alliances (AccessComputing, CAHSI, CRA-WP, ECEP, IAAMCS, LEAP, NCWIT, and STARS), and the Center for Inclusive Computing at Northeastern University. We invite others interested in ensuring universities and colleges across the nation offer inclusive computing undergraduate education programs to engage as well. Sign up to be involved from the LEVEL UP website.


The goal of LEVEL UP is to build consensus around a united vision of inclusive undergraduate computing education. Through collaboration with a respected advisory board of computing educators and professionals from across the country, the LEVEL UP project will develop an evidence-based report of best practices that we will encourage computing departments to implement nationwide. CRA will work with our diverse computing community members to chart a pathway that undergraduate computing programs can implement to offer inclusive computing courses and opportunities where all
 students feel welcome and thrive.

CRA will lead the shared effort that involves the Association for Computing Machinery, IEEE Computer Society, several National Science Foundation (NSF) Broadening Participation in Computing (BPC) Alliances (including AccessComputing, Computing Alliance of Hispanic-Serving Institutions, CRA-Widening Participation, Expanding Computing Education Pathways, Institute for African-American Mentoring in Computing Sciences, LEAP Alliance, National Center for Women and Information Technology, and STARS Computing Corps), as well as the Center for Inclusive Computing at Northeastern University.

Computing education continues to face challenges around inclusion, diversity, equity, and accessible learning. While several departments and colleges are achieving major successes in these areas, many others are lagging. Change is possible with a coordinated effort among computing department leaders and faculty. CRA encourages all universities and colleges to "LEVEL UP" and implement best practices that broaden participation in computing. The program will build consensus on which BPC evidence-based best practices are vital and should be implemented on a large scale.

The LEVEL UP program will form working groups to address six of computing's biggest challenges:

- Managing booming enrollments without damaging diversity efforts
- Best Practices for Broadening Participation in Computing
- Different Pathways into Computing
- Making departments and programs more accessible for students with disabilities
- Preparing Students for Industry
- Approaches to Increase Domestic PhD Enrollments

Each group will develop a consensus on a list of actions that departments should take to address the challenge. Departments that then implement the consensus vision locally will "LEVEL UP."

To reach our LEVEL UP goals, CRA will hold a series of regional workshops where faculty across the country will meet and build consensus around inclusive computing education.

Once there is a shared national vision around computing education, departments and programs across the United States can positively impact a significant number of students interested in computing and "move the needle" on some of the most pressing challenges in the discipline.

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# CRA-E's Undergraduate Research Highlights: Undergraduate Research Makes Visualizations More Accessible via Alternative Text 

CRA-E
Computing Research Association Education

CRA-E's "Undergraduate Research Highlights" series showcases outstanding research done by undergraduate students at universities and colleges across North America. Each article features the story of a successful undergraduate researcher and offers personal insights into their experiences with finding an advisor, undertaking new research projects, and discovering how research can impact their personal and professional futures. It is one of a number of CRA-E's activities that foster and recognize talented computing researchers with the goal of increasing the research pipeline, promoting graduate education, and advocating research-based careers.

In addition to helping students understand the process of getting involved in research, the articles also serve as a venue for students to pass along advice to others who aspire to become involved in research themselves. Students selected for the research highlights include those receiving recognition in the CRA Outstanding Undergraduate Researcher Award competition. This series is written and edited by CRA-E Graduate Fellows.

## Undergraduate Research Makes Visualizations More Accessible via Alternative Text

## Crescentia Jung, B.S. in Computer Science, University of Wisconsin-Madison

This Q\&A highlight features Crescentia Jung, an Honorable Mention in the 2022 CRA Outstanding Undergraduate Researchers award program. Crescentia graduated from the University of Wisconsin-Madison and is now at Cornell University pursuing a Ph.D. in Information Science. This interview has been edited for length and clarity.

## How did you initially connect with the area of research you ended up working in?

During my freshman year, I was learning skills in my introductory computer science classes, and I wanted a space where I could actually apply those skills. By their nature, I think those introductory classes tend to teach you how to do things, but don't really give you opportunities to actually use them to make a change. I think that's something that you can find in research. I was seeking ways to learn how to make programs and computing technology more meaningful and user-friendly, and my computer science professor recommended reading research papers in the field of Human-Computer Interaction. Some papers I read were by professors at UWMadison, and I emailed a few professors whose work interested me.

> The hardest part is taking the first step and getting involved in research, but it's the only way to find out what you really want to pursue.

Crescentia Jung

## CRA-E

Computing Research Association Education


## Research Highlights (continued)

## How did you connect with your undergraduate research advisor?

One of the professors I emailed was Professor Yea-Seul Kim. I found out about her through an interview she did as an incoming professor. That interview helped me get an idea of the types of projects she would be focusing on. I felt they were kind of what I wanted to focus on, so I reached out. When I first met her, I didn't have anything specific to bring to the table, just topics and fields in mind, but she seemed very curious about my experiences and interests. I think that was exactly what I needed, someone that could be really supportive and help me find my research interests. That stood out the most from the talk that I had with her. Professor Kim helped me dive right into the research process.

## Can you tell us about your project?

Professor Kim introduced me to the topic of accessible data representation. People with visual impairments use screen readers that read aloud alternative text to access visual content. However, the current reality is that most alternative texts are not informative enough to provide access to visual information. For example, some visualizations on news websites are rich with information that the alternative text fails to communicate. It is imperative to make visual content accessible for people with visual impairments to ensure equal access to information.

We collaborated with Prof. Yuhang Zhao, who has a lot of experience with research involving people with visual impairments. I conducted interviews with 22 participants with visual impairments to better understand their needs and preferences. I compared the insights from our interviews with existing guidelines and current practices for alternative text, allowing us to develop recommendations for creating informative alternative texts to better support the needs of people with visual impairments. For example, we found that participants were trying to visualize the visualizations in their head while listening to alt texts. Because our brains can only handle so much information at once, the participants emphasized including the chart type, axes, and data trend in alt texts. For our detailed recommendations, check out our publication, which we presented at the IEEE VIS 2021 conference.

## What challenges did you face in the research process?

I was working with qualitative methods for the first time. In the interviews, participants gave a wide range of fascinating insights and opinions. It was difficult to organize so many ideas in the beginning. We were doing thematic analysis, trying to find the common themes in the participants' interviews, and sometimes many small themes would show up. But by talking through emerging themes with Prof. Kim and Prof. Zhao, it became easier to organize the findings in a clear and effective way, eventually converging on a collection of overarching themes.

## Have any of your outside interests had any interplay with your research experience?

I think it's important to have interests or hobbies that might not have any relevance to your research. For example, I love to work out, play tennis, and bake. Interestingly, I've had numerous times where l'd be doing these hobbies and I would think of an idea for my research.

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

I think that hands-on experience is the best way to figure out what interests you the most. The hardest part is taking the first step and getting involved in research, but it's the only way to find out what you really want to pursue.

## What are some of your favorite aspects of research?

I love sharing my research with others and learning about the research that others have done in the field. It's a valuable opportunity to learn about new topics and get to know new people and their research interests. I love meeting new people and would love to chat if you have similar research interests or any questions! Feel free to reach out at cj382@cornell.edu. You can also read more about my research at crescentiajung.com.

- Edited by Yasra Chandio and Nadia Ady


# NSF and Five Other U.S. Agencies Launch Program to Build an Integrated Data and Knowledge Infrastructure 

## By Maddy Hunter, CCC Program Associate

Recently, the National Science Foundation (NSF), along with five other U.S. government agencies, launched the Building the Prototype Open Knowledge Network (Proto-OKN). This \$20 million initiative will provide funding opportunities towards building a prototype version of an integrated data and knowledge infrastructure called an open knowledge network.

An open knowledge network (OKN) is a publicly accessible, interconnected set of data repositories and as sociated knowledge graphs that will enable data-driven, artificial intelligence-based solutions for a broad set of societal challenges. In 2018, the Computing Community Consortium (CCC) partnered with the Association for the Advancement of Artificial Intelligence (AAAl) to bring together the community and produce a 20 -Year Roadmap for Artificial Intelligence. The report emphasized a need for open knowledge networks in order to satiate Al's need for vast amounts of data, in addition to describing key characteristics that the community considered desirable in such a public network.

NSF will fund projects to prototype scalable, cloud-based technical infrastructure to address challenges across healthcare, space, criminal justice, climate change and many other fields. The Proto-OKN funding opportunity will support translational research projects in the following categories:

- Theme I-Proto-OKN Use Cases: Projects in this category will develop a knowledge graph or "node" to provide data-centric solutions to various societal challenges like equity, social care, justice, climate change, disaster management, health communications, supply chains and financial risk analysis.
- Theme 2 - Proto-OKN Fabric: Projects in this category will develop and deploy the necessary technologies to provide "interconnecting fabric" to link the knowledge graphs developed by Theme I teams.
- Theme 3 - Proto-OKN Education and Public Engagement: One awardee will create educational materials and tools for people or organizations interested in engaging with the Proto-OKN.

To learn more, read the Proto-OKN funding opportunity.

## CCC at AAAS: Surveillance, Assistance or Hinderance?: Caregiving Technologies for Older Adults Panel Recap



## By Cat Gill, CCC Program Associate

On the second day of the 2023 AAAS Annual Meeting, held in Washington, DC, the CCC supported its first of six panels, titled, Surveillance, Assistance or Hinderance?: Caregiving Technologies for Older Adults. The three panelists were Robin Brewer (University of Michigan), George Demiris (University of Pennsylvania), and Anne M. Turner (University of Washington). The panel was moderated by CRA Board and CCC Council member Katie Siek (Indiana University).

Professor Turner kicked off the panel with a detailed description of the Decision Making in Alzheimer's Research (DMAR) project


## CCC at AAAS (continued)

which she leads. This project is funded by the National Institute on Aging and focuses on strategies for tracking preferences of older adults with Alzheimer's and their caregivers in making decisions about care. Furthermore, it aims to develop tools to help elicit the preferences of older adults with dementia. Much of Alzheimer's care is currently conducted without taking into account the changing preferences of older adults with dementia, such as their family situation, cultural traditions, and specific needs of their caregivers. Dr. Turner, with her research team at the University of Washington, conducted an initial study with 79 older adults, their caregivers and providers to determine the best ways to incorporate their preferences into care plans. These interviews focused on identifying decisions surrounding supporting care for these older adults, and the timing and reasoning behind these decisions. Dr. Turner and her colleagues found that older adults with dementia had difficulty discussing their future care; however, through development of a discrete choice-based survey the team is able to identify and track the preferences of older adults with dementia and compare these preferences with caregivers over time.

The next panelist, George Demiris, focused on smart home technologies to help monitor older adults. These technologies can take the form of wearables, such as bracelets or necklaces, or passive monitoring technologies, such as depth sensing cameras or pressure plates. Dr. Demiris began his presentation by identifying the societal need for these types of technologies. The national shortage of caregivers has pushed society towards utilizing assistive technologies to fill in gaps left by the lack of workforce. Though these technologies will be used by many older adults and their caregivers, Dr. Demiris emphasized the need for individualized technologies rather than "one size fits all" models. To ensure that these technologies are helpful to older adults, these tools should continuously measure aspects of an individual's physiology, behavior, and symptoms. This level of surveillance, however, is seen by many older adults as invasive. It is important, therefore, to design these devices to be transparent and to gather only data that are necessary. For example, Professor Demiris introduced the sense4safety initiative, which uses depth sensors to detect an individual's gait and ambulatory ability. This technology aims to improve identification of fall risk factors over time, and also pairs older adults with telehealth professionals to help develop plans to reduce fall risk. While this technology does require constant monitoring of the older adult in question, by using depth sensors rather than video cameras, the technology is far less invasive without compromising its effectiveness. The goal for these technologies in the long term, Dr. Demiris said, is to create proactive, rather than reactive models which could notify an older adult or caregiver of an increased fall risk before the fall takes place.

Lastly, we heard from Dr. Robin Brewer who discussed reframing how voice assistant technologies can help facilitate communication between older adults and their caregivers. Many older adults struggle with using new technologies because they are unfamiliar with the interfaces and do not want to bother with learning them. Voice assistants, such as Apple's Siri or Amazon's Alexa, remove the need to learn a new interface, and thus these technologies have become increasingly popular with older adults. Older adults, however, are not interested in using these technologies to monitor their health, because many of them have deteriorating medical conditions about which they do not want to hear frequent updates. One gentleman, when asked whether he would use a voice assistant to help monitor his health, responded:
"I don't need that. My health is a mess. You have no idea all the problems I got. My eyesight is going. I've got glaucoma. I just had a cataract removed [..] I've got dental work that needs to be done. I've got bad kidneys for the last 25 years [..] I can go on. I'm a physical mess. If Alexa knew the state I was in, the tower would weep. It would cry." (Robert)

Dr. Brewer instead proposed that voice assistant technologies be used to promote communication between older adults and their caregivers. Dr. Brewer administered a 2-week diary study of older adults and their caregivers asking them to answer the same three questions each day: 1) What was the most meaningful care interaction today? 2) What made it meaningful? 3) Is there anything you wanted to communicate to your care partner today, but didn't? Dr. Brewer found this last question to be the most revealing.

Underlying tensions between caregivers and older adults can diminish the conversations they have, because there are existing truths that neither side wants to acknowledge. An example of this that Dr. Brewer mentions is of an older adult shopping in the grocery store. This individual wrote that they like to grocery shop slowly, so that they can have time to browse. However, this activity they used to look forward to "becomes a chore and a mission to accomplish a goal in the minimum of time as I waste another's" when shopping with a caregiver, but this individual didn't feel comfortable mentioning that to their caregiver. Caregivers, on the other hand, often indicated how they feel stressed with the task of managing both of their wellbeing and trying to not make the older adult feel like a burden. These kinds of underlying social graces can severely limit conversations between two parties, and Dr. Brewer believes that utilizing voice technologies beyond informational services to help scaffold conversations can help with the dearth of communication between caregivers and the older adults they care for.

Click here to read the full blog post including the complete Q\&A with the panelists.

# "Emerging Election Technologies <br> Enhancing Integrity, Transparency, and Confidence" AAAS Panel Recap 



## By Haley Griffin, CCC Program Associate

Elections that are safe, secure, and verifiable by the public are an essential part of every democratic government. There have been public outcries for changes in the election process in the U.S. and around the world as citizens have been frustrated with the lack of transparency. Election confidence from the majority of the public is not easy to obtain, but the panelists of a CCC-organized panel at the AAAS Annual Meeting made many suggestions on steps we can take to do just that.

The panelists of the session, "Emerging Election Technologies Enhancing Integrity, Transparency, and Confidence" were Philip B. Stark (University of California, Berkeley), Josh
 Benaloh (Microsoft Research), and Poorvi L. Vora (George Washington University). Elizabeth (Liz) Howard (Brennan Center for Justice) was the moderator.

Dr. Howard kicked off the session by describing that democracies around the world are under attack, and it is critical to the future of these systems that we have election confidence. She explained that technology can combat these threats through substantive evidence of election integrity, specifically with evidence-based elections, end-to-end-verifiable voting systems, and risk-limiting audits.

Dr. Stark began the panel discussion by positing that "whether or not you believe the 2020 election was accurate, the fact that many people do not shows that we need to run elections in a way that generates convincing evidence that reported election outcomes are correct." The antidote to a lack of trust according to Dr. Stark? Evidence. It isn't enough for election officials to determine who won an election and declare it, the public deserves convincing evidence. Not all evidence about elections is affirmative evidence

## AAAS Panel Recap (continued)

that outcomes are right. For instance, a forensic examination of voting system software might find no malware-but that is not evidence that the results are correct, only that one kind of problem did not occur. Similarly, an accurate, full hand count of the paper trail provides no evidence that the outcome is correct unless there is also evidence that the paper trail accurately reflects how people voted. There are multiple ways to collect convincing evidence that an election was called correctly while maintaining ballot anonymity. The key is that elections should be evidence-based, not procedure-based which is the current standard. One way to provide affirmative evidence is a risk-limiting audit (RLA) of securely curated hand-marked paper ballots.

RLAs require a demonstrably trustworthy paper trail. (The trustworthiness depends on how the paper trail is created, accounted for, and cared for. No audit that relies on untrustworthy paper can give affirmative evidence that the reported winners really won.) RLAs have been piloted throughout multiple elections since 2008, and the National Academies officially recommended them in 2018. RLAs are a key ingredient in evidence-based elections because they can generate affirmative evidence that the political outcome is accurate, rather than just fault detection (e.g., noticing a problem with the tabulation). Elections and audits need durable, complete, and trustworthy vote records that are kept physically secure throughout the canvass and audit. Then elections can be publicly verifiable, which is a goal of the next panelist, Dr. Benaloh, as well.

Dr. Benaloh, reiterated that there is a crisis of election confidence in the US and around the world, and blames the death of public evidence for these widespread issues. In the majority of elections today, he explained, we are not providing voters with substantive evidence that votes are correctly counted. We are asking voters to trust local election officials, the equipment, the equipment vendors, and others - whether or not these entities are trustworthy. He proposes a solution to this lack of public evidence: end-toend (E2E) verifiability. When an election is E2E-verifiable, voters receive direct evidence that their votes were accurately counted. It requires a verifiable election record that allows voters to confirm the accurate counting of their ballots without having to trust the people or technology running the election. There are two core principles of E2E-verifiable elections:

1. Voters can verify that their own selections have been correctly recorded
2. Anyone can verify that the recorded votes have been correctly tallied

These elections make one crucial modification to a typical election: voters receive a confirmation code while voting that they can use to confirm the correct recording of their selections. Voters can later confirm on a public website that their confirmation codes are present and the listed confirmation codes are consistent with the announced tallies. Voters have the choice to just vote and not check the correct recording and/or counting of their votes, or to check as thoroughly as they desire. (Note here that voters cannot view the contents of their ballots once they have been cast - only that they have not been changed from the time they were cast and optionally verified. This prevents coercion and vote-selling.)

E2E-verifiability generally requires advanced cryptographic tools like Threshold Homomorphic Encryption, Non-Interactive ZeroKnowledge Proofs, and more. Current U.S. Election Assistance Guidelines include requirements for E2E-verifiability. This technique is starting to be used in the U.S. and around the world today, and has been piloted in multiple U.S. elections since 2009 (including the U.S. House Democratic Caucus leadership elections in 2020).

Dr. Vora expanded on the use of E2E-verifiability in other elections in the US, starting with Takoma Park's municipal election in 2009. It was the first government election in the United States with privacy preserving end-to-end verifiable technology where anyone could confirm the tally correctly represented the votes. The voter filled in ovals that corresponded with their selections for the mayor and council member. They used special pens which revealed confirmation numbers printed in invisible ink in the ovals, and had the option of writing them down so they could later check them on the website, or they could just cast their ballots and leave. The election guaranteed voter verifiability because voters could check their confirmation numbers on the election website, and it had universal verifiability because the information was publicly available to check the tally was correctly computed from the confirmation numbers.

Dr. Vora emphasized that maintaining some aspects of the traditional methods of elections is important: "We don't know how to make elections fully secure without people and physical processes. Without them, a voter who notices a problem cannot prove it, and observers cannot distinguish a truthful voter from one who is lying." She also explained that the incorporation of mathematical models which better represent the real audit process on the ground can improve RLAs.

Dr. Vora wrapped up the panel by recounting that legislation requiring or allowing RLAs and other election-verifying requirements is currently in place in many states in the US today, and that has resulted in audits of many binding elections. However, much remains to be done. It takes a massive number of dedicated individuals to identify and deploy these techniques in environments that can turn hostile very quickly, but it is crucial that we invest in these technologies in order to make every election publicly verifiable.

Many thanks to the panelists for sharing their knowledge with the community about how computing technology can serve as an aid in securing elections.

Click here to read the full blog post including the complete Q\&A with the panelists.

# Doctoral Students from Underrepresented Populations in Computing Reported Lower Feelings Related to Imposter Syndrome After Attending the 2022 CRA- 

 WP Grad Cohort for Women Workshop
## By Eniola Idowu, CERP Research Associate

To what extent are each of the following statements true of you


[^0]
## Lower Feelings Related to Imposter Syndrome (continued)

CERP
Computing Research Association
Evaluation

The CRA-WP Grad Cohort for Women Workshop engages women students to overcome obstacles and foster confidence to succeed in the graduate degree programs through mentoring, networking opportunities, and advising. This infographic examines significant changes in feelings related to imposter syndrome among 37 doctoral participants from populations considered underrepresented in computing [1] after attending the 2022 CRA-WP Grad Cohort for Women Workshop.

CERP evaluated the 2022 workshop using a pre/post methodology, where program participants completed surveys before (Time 1) and after the workshop (Time 2). The current analyses examine whether feelings of imposter syndrome changed among underrepresented doctoral students $(\mathrm{n}=37)$ after attending the event. Survey respondents answered on a five-point scale the degree to which they disagreed or agreed with the following statements indicated in the figure. Data were analyzed using paired t-test samples with significance levels of (*) p<. 05 and (**) p<.01. Findings indicated that the participants were more likely to believe they give off the impression they are more competent than they really are. Participants were also less likely to report both their success has been due to some kind of luck and feel disappointed at times in their accomplishments and think they should have done more by now. There were no statistical mean differences between Time 1 and Time 2 for them being afraid of living up to others' expectations of their accomplishments.

Of importance, this analysis did not include disability status and other demographic characteristics, such as citizenship status and first-generation status. It is possible that the findings may differ if the analysis included these participant characteristics. Additional analyses will be conducted to examine if imposter syndrome differs by disability, citizenship, and first-generation status.

## Notes:

The survey data analyzed for this infographic were collected by the Center for Evaluating the Research Pipeline via 2022 Grad Cohort for Women Pre and Post Workshop Surveys. Respondents were given on a five-point scale from (1) Not at all true to (5) Extremely true. Notably, lower scores represent agreement with the statement; thus, lower scores over time indicate improvement.
[1] Underrepresented doctoral students ( $n=37$ ) include participants who are African American/African/Black; Hispanic, Latinx, or Spanish origin; American Indian/Alaska Native; or Native Hawaiian/Pacific Islander.

This analysis 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. Check out CERP's activities and find out how to engage on CERP's website.

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CRA is growing! We are currently recruiting talented individuals to help advance our mission. A variety of open roles are available:

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- Research Associate (Data and Evaluation)
- Program Associate (Education)
- Program Associate (to assist several teams)
- Program Assistant (Data and Evaluation)
- Program Assistant (Education)
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Expanding the Pipeline
Soha Hassoun, Tufts University
Patty Lopez, New Mexico State University

## Professional Opportunities

## Arizona State University

School of Computing and
Augmented Intelligence

## Teaching Professor (All ranks) in Software Engineering

The School of Computing and Augmented Intelligence (SCAI) in the Ira A. Fulton Schools of Engineering at Arizona State University (ASU) seeks applicants for a full-time teaching professor (all ranks) position beginning August 2023. This position is in primary support of the Software Engineering M.S. and B.S. programs on ASU's Polytechnic Campus, but teaching professors are expected to support the instructional mission of all SCAI programs. SCAI has locations on the Tempe and Polytechnic Campuses so some travel between locations should be expected. In addition, SCAI has an online presence and all faculty participate in the creation of curriculum and delivery of instruction in the online modality. This is a non-tenure track appointment with a renewable fixed-term academic year contract. Appointments will be made at the rank of Teaching Professor, Associate Teaching Professor or Assistant Teaching Professor commensurate with the candidate's experience and accomplishments. Opportunities exist to augment the academic year salary by assisting with summer instruction.

Review of applications will commence on March 20, 2023.

Applications will continue to be accepted on a rolling basis for a reserve pool. Applications in the reserve pool may then
be reviewed in the order in which they were received until the position is filled.

For complete qualification/application information, see https://hiring. engineering.asu.edu/.

A background check is required for employment. Arizona State University is a VEVRAA Federal Contractor and an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, protected veteran status, or any other basis protected by law.
(See https://www.asu.edu/aad/manuals/ acd/acd401.html and https://www.asu. edu/titleIXI.)

In compliance with federal law, ASU prepares an annual report on campus security and fire safety programs and resources. ASU's Annual Security and Fire Safety Report is available online at https://www.asu.edu/police/PDFs/ASU-Clery-Report.pdf You may request a hard copy of the report by contacting the ASU Police Department at 480-965-3456.

COVID-19 Vaccination - Arizona State University is a federal contractor and subject to federal regulations which may require you to produce a record of a COVID-19 vaccination. For questions about medical or religious accommodations, please visit the Office of Diversity, Equity and Inclusion's webpage.

## Arizona State University

## Teaching Professor (all ranks) or Instructor

The School of Computing and Augmented Intelligence (SCAI) in the Ira A. Fulton Schools of Engineering at Arizona State University (ASU) seeks energetic individuals for multiple full-time positions of Teaching Professor (all ranks considered) or Instructor beginning August 2023. These teaching faculty positions support primarily the Computer Science and Engineering programs, but teaching faculty are expected to support the instructional mission of all SCAI programs. SCAI has locations on the Tempe and Polytechnic Campuses and the programs are expanding to the West Campus, and thus some travel among campuses should be expected. In addition, SCAI offers multiple online degree programs and faculty participate in the creation of curriculum and delivery of instruction in the online modality. All teaching faculty positions are non-tenure track appointments with a fixed term academic year contract. Appointments will be made at the rank of Teaching Professor, Associate Teaching Professor, Assistant Teaching Professor, or Instructor commensurate with the candidate's experience and accomplishments. Opportunities exist to augment the academic year salary by assisting with summer instruction.

Review of applications will commence on April 28, 2023. Applications will continue to be accepted on a rolling basis for a reserve pool. Applications in the reserve

## Professional Opportunities

pool may then be reviewed in the order in which they were received until all positions are filled.

For complete qualifications/application information, see https://hiring. engineering.asu.edu/.

A background check is required for employment. Arizona State University is a VEVRAA Federal Contractor and an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, protected veteran status, or any other basis protected by law.
(See https://www.asu.edu/aad/manuals/ acd/acd401.html and https://www.asu. edu/titleIX/.)

In compliance with federal law, ASU prepares an annual report on campus security and fire safety programs and resources. ASU's Annual Security and Fire Safety Report is available online at https://www.asu.edu/police/PDFs/ ASU-Clery-Report.pdf. Candidates may request a hard copy of the report by contacting the ASU Police Department at 480-965-3456.

COVID-19 Vaccination - Arizona State University is a federal contractor and subject to federal regulations which may require you to produce a record of a COVID-19 vaccination. For questions about medical or religious accommodations, please visit the Office of Diversity, Equity and Inclusion's webpage.

## Barnard College

Professor or Associate Professor of Computer Science

Barnard College invites applications for a tenured professor or associate professor in Computer Science. Barnard faculty are expected to engage in teaching, research, curriculum and program development, undergraduate advising, and mentoring of undergraduate research. The successful hire will further the aims and vision of Barnard's CS program and will embody strategic strengths for this growing program. There is opportunity to collaborate with faculty and students at both Barnard and Columbia. The position is open to all areas of computer science as well as to multidisciplinary scholars with a significant computational focus. We encourage candidates who take a multidisciplinary approach, whether across multiple subareas of computer science, or with research connections to another discipline. Candidates must have a PhD in Computer Science or a related discipline, and should have a strong track record of significant scholarship, experience and excitement for undergraduate teaching and mentoring, and a demonstrated commitment to increasing diversity in computer science.

## Information and application at

 https://cs.barnard.edu/tenured-faculty-computer-science.
## Brown University

Associate or Full Professor, Health Data Science

The Brown University School of Public Health is pleased to announce a schoolwide opening for an Associate or Full Professor (tenure-track) with emphasis in Health Data Science. This search will take a broad view of data science research. Areas of interest include, but are not limited to, statistical and data-analytic methodology, health information systems, machine learning, text mining, societal impact of artificial intelligence, algorithmic fairness in health, multimodal data modeling, data-driven policy evaluation and decision making, and data integration.

For more details and to apply, visit http://apply.interfolio.com/98685.

Review of new applications will begin on April 1, 2023.

## Bucknell University

Open-rank, Tenure Track Professor in Computer Science

The Computer Science Department at Bucknell University invites applications for an open-rank tenure-track position starting in August 2023. We seek candidates with the potential to effectively teach computer science courses throughout the curriculum and to contribute an elective in their area of interest. Candidates whose scholarship is in any area of computer science or a closely related field should apply. We are looking for candidates who have an

## Professional Opportunities

active intellectual life that they wish to share with the Bucknell community, and we strongly encourage candidates from groups underrepresented in higher education to apply. Bucknell is a highly selective primarily undergraduate university with a strong commitment to the intellectual freedom and broad experience of a residential liberal arts education. We emphasize studentcentered education and support faculty in developing and maintaining active research programs that engage undergraduate students. Our department is very collegial and collaborative, and we look forward to welcoming, supporting, and mentoring new colleagues in all aspects of their responsibilities.

The full job ad, with application instructions, is available at: bison.link/cstt

## Carleton College

Visiting Assistant Professor

Carleton College invites applications for a two-year visiting faculty position in computer science, beginning September 1 , 2023, at the rank of assistant professor or instructor. This position involves teaching six courses per year spread over three 10week terms, including a mix of introductory and advanced courses, to be selected based on the successful applicant's interests and specialization. Candidates with any specialty within computer science are encouraged to apply. Masters in computer science or a closely related field is required; Ph.D. preferred.

We are also open to part-time or part-year or one-year appointments.

Please see the full job description for further details.

## Clemson University

Assistant/Associate Professor Faculty Position in Computer Science

The School of Computing at Clemson University invites applications for a tenure-track faculty position at the assistant/associate level, to join its Computer Science division, starting in Fall 2023. This position will partially support interdisciplinary collaboration through Clemson's Media Forensics Hub, bringing a computing perspective to our understanding of issues in online media such as disinformation. Many areas of research emphasis would be of interest, including for example Natural Language Processing, Network Science, Data Science, Provenance of Digital Artifacts, and Applied AI.

Applicants should indicate their specialties and interests in their cover letter. Vita, statements on teaching, research, and a Justice, Equity, Diversity, and Inclusion statement including the description of the candidate's experience mentoring diverse individuals and/or how the candidate plans to contribute to the inclusive excellence of the School and the contact information for securing three confidential reference letters should be submitted at http://apply.interfolio.com/l21566.


## Visiting Assistant Professor in Computer Science

Approximate pay range: \$70,000-\$95,000
The Department of Mathematical Sciences at Claremont McKenna College (CMC) invites applications for a two-year visiting Assistant Professorship in Computer Science. The position will begin on July 1, 2023. The successful candidate is expected to hold a Ph.D. by the time of the appointment.
The successful applicant will teach courses in Computer Science. The teaching load is five courses per year. While all areas of CS are welcome to apply, extra consideration will be given to those able to teach machine learning courses. The candidate must have a demonstrated ability in research or industry experience and be able to maintain the highest standards of excellence in teaching.
Applications should include a cover letter; CV; teaching statement including evidence of teaching effectiveness; research or industry experience statement; and diversity statement. In addition, each application should include three letters of recommendation, at least one of which should address teaching.

> Applications must be submitted electronically to the Claremont McKenna College website: https://apptrkr.com/3935508

## Colgate University

## Computer Science Visiting Assistant

 ProfessorThe Computer Science Department at Colgate University invites applications for one or more visiting assistant professor positions beginning fall semester 2023.

## Professional Opportunities

Positions are for one-year with possibility of renewal for additional years dependent on performance and institutional need. A Ph.D. in computer science or a related field is required at the time of appointment or shortly after the date of hire.

We encourage candidates in any area of specialization to apply. We welcome applications from individuals who are passionate about teaching and have the potential for excellence in teaching at the undergraduate level. We seek candidates with an interest and ability to teach required courses in our curriculum and elective courses in computer science. Applicants with an active research agenda and interest in mentoring undergraduate research are preferred.

Teaching responsibilities consist of a five-course load for the academic year. Faculty members often teach a mix of lecture sections and lab sections, with each lab section counting as equivalent to $1 / 3$ of a course. The successful candidate may be expected to participate in all- university programs, including the Liberal Arts Core Curriculum.

Review of applications will begin on March 24, 2023 and continue until the position is filled. Applications, which can be submitted at https:// academicjobsonline.org/ajo/jobs/24498, must include a cover letter, curriculum vitae, teaching statement, research statement, diversity/inclusivity statement, and the names of three writers of letters of recommendation. Candidates should include in their teaching statement courses they are interested in teaching. At least one of the letters of reference
should speak to the candidate's promise as a teacher. Colgate strives to be a community supportive of diverse perspectives and identities and to make all students feel welcome, respected, and fully included in the classroom. Candidates should describe in the diversity/inclusivity statement how their approach to teaching, scholarship and/or mentorship might help us achieve this goal.

Colgate is a vibrant liberal arts university of around 3,200 students situated in central New York state. Colgate faculty are committed to excellence in both teaching and scholarship. Further information about the Computer Science department can be found https://www.cs.colgate.edu/

Applicants with dual-career considerations can find postings of other employment opportunities at Colgate and at other institutions of higher education in upstate New York at this website: https://upstate-ny.hercjobs.org/

It is the policy of Colgate University not to discriminate against any employee or applicant for employment on the basis of their race, color, creed, religion, age, sex, pregnancy, national origin, marital status, disability, protected Veterans status, sexual orientation, gender identity or expression, being or having been a victim of domestic violence or stalking, familial status, or any other categories covered by law. Colgate is an Equal Opportunity/ Affirmative Action employer.

Candidates from historically underrepresented groups, women, persons with disabilities, and protected veterans are encouraged to apply.

## Emory \& Henry College

Assistant Professor of Applied Computer Science

Emory \& Henry College welcomes applicants for a tenure-track Assistant Professor or Instructor of Applied Computer Science to begin in Fall 2023. Our ideal candidate will hold a Ph.D. in Computer Science with a specialty or experience in Data Science, but Master's degree candidates with relevant work experience will be considered.

Our future colleague will help develop our new B.S. degree in Applied Computer Science, teaching Programming and other courses during the first year of the program. The annual teaching load is 20-24 credit hours a year, though course credit for college service is possible.

Applications will be reviewed beginning March 20 and continuing until the position is filled.

To apply, please visit: https://myhub.ehc. edu/ICS/Employment_Opportunities/


## Assistant Professor, Tenure or Teaching Track Computer and Information Science

Gannon University is hiring a Assistant
Professor, Tenure or Teaching Track, Computer and Information Science.

> If interested, please apply: https://apptrkr.com/3917438

## Professional Opportunities

## George Washington (GW) University

Professor of Practice

The Department of Computer Science at The George Washington (GW) University in Washington DC, invites applications for a Professor of the Practice position starting potentially as early as Fall 2023. This nontenure track, specialized appointment will be made at the Assistant/Associate/Full Professor of the Practice rank depending on the candidate's experience. GW has a history of supporting faculty with "Practice" titles who are educators, practitioners, and scholars, and the Computer Science department has set high standards in providing a teaching and work environment in which "Practice" faculty thrive.

New faculty will join a vibrant department with diverse faculty, housed in a building that encourages interdisciplinary efforts across many fields. The School of Engineering and Applied Science is fundamentally committed to increasing the diversity of its faculty and staff and has one of the highest percentages of women engineering students nationally. We welcome nominations of and applications from women, members of groups underrepresented in engineering and computing, veterans and individuals with disabilities. We also welcome others who would bring additional aspects of diversity to the university's research, teaching and service missions.

## Responsibilities

The position primarily entails teaching courses throughout the undergraduate
curriculum, including courses open to the entire University student body, and participating in program and curriculum development. The position may also include graduate level teaching within the candidate's area of expertise. An initial multi-year appointment will be offered in accordance with the University's Faculty Code. "Practice" faculty typically teach a three or two course load per semester with both graduate and undergraduate teaching assistant support in lower division Computer Science courses.

## Minimum Qualifications:

By the date of appointment, applicants for the Professor of Practice position must have a Ph.D. in Computer Science or a closely related field. They must also have demonstrated experience or potential for teaching several topics in a Computer Science curriculum.

## Enquiries and Application

To inquire, please email to cssearch@ gwu.edu or call 202-994-7181. To apply, complete the online faculty application at https://www.gwu.jobs/ postings/100392 and upload: (1) a detailed curriculum vitae; (2) a statement of teaching interest regarding teaching philosophy and experience, including evidence of commitment to promoting inclusion and diversity; (3) teaching evaluations or summaries as evidence of teaching effectiveness; (4) a short cover letter describing your background and interests in teaching students at The George Washington University and in promoting inclusion and diversity in computer science; (5) a statement of
research interest (which may include research on Computer Science pedagogy or other areas of education research); and (6) contact information for three references who can address your teaching experience and potential for this appointment. Only complete applications will be considered. Review of applications will begin on March 31, 2023 and will continue until the position is filled.

## EEO/AA Policy:

The university is an Equal Opportunity/ Affirmative Action employer that does not unlawfully discriminate in any of its programs or activities on the basis of race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity expression, or on any other basis prohibited by applicable law.

## Background Screening Statement:

Employment offers are contingent on the satisfactory outcome of a standard background screening.

## Georgia Institute of Technology

Lecturer - Open Rank
The School of Computing Instruction (SCI) within Georgia Tech's College of Computing was recently founded to recognize the contributions of CS teaching-track faculty and support their pedagogical efforts. We invite applications for multiple full-time and long-term faculty positions. Primary responsibilities will include but not be limited to providing

## Professional Opportunities

high-quality undergraduate teaching. Candidates will be expected to teach a 2-3 load with the assistance of one teaching assistant for every 25 students. Opportunities to teach graduate courses are also possible as candidates will be matched to courses for which they are best fit. In addition to teaching, there's an expectation (and several opportunities) to participate in service at the School, College, and Institute level. Candidates are also encouraged to engage in scholarship and curriculum development. As part of its budget, SCI earmarks funding for these sorts of activities and makes it available to faculty.

For this cycle, we are seeking candidates who are interested in one or more of the following areas:

- Artificial Intelligence
- Capstone Design
- Computer Organization/Architecture
- Discrete Math
- Mobile Application Development
- Software Engineering
- Usability and User Experience
- Web Development

The official appointment will be made as a Lecturer or Senior Lecturer, depending on past teaching experience. Both positions are on 9-month renewable contracts with an expectation to start in Fall 2023 on Georgia Tech's Atlanta campus. Summer teaching for additional compensation is typically available. SCI faculty are also given the opportunity to also teach abroad from time to time -- in cities like Berlin, Barcelona, and Metz.

Qualified applicants must hold a Masters or PhD degree in computer science or related field. Each candidate must also submit a cover letter, CV, teaching statement, link to a sample teaching video, and contact information of at least three references. The top candidates will be invited to interview and give a sample lecture.

Visit here to apply for the position: https://careers.hprod.onehcm.usg.edu/ psp/careers/CAREERS/HRMS/c/ HRS_HRAM_FL.HRS_CG_SEARCH_FL .GBL?Page=HRS_APP_JBPST_FL\&Action =U\&FOCUS=Applicant\&SiteId =3000\&JobOpeningId=251281\&Posting Seq=I

Learn more about our new School here: https://sci.cc.gatech.edu/

Direct specific questions about the position or SCl to the search committee via email: dci-recruiting@cc.gatech.edu

## Grier Forensics, LLC

Postdoc Research Computer Scientist

## Objective

Our Innovation team at Grier Forensics specializes in creative problem solving, cutting-edge technical research, and our process of origination. We have successfully leveraged these skills and processes to develop technical proposals for novel topics, leading to multiple new awards in 2022. We are seeking talented individuals to join our team so we can expand the possibilities for 2023. Part of this effort is creating a new two-year Industrial Postdoc Program for Research Computer Scientists to apply their extensive research writing
skills towards winning contracts and publishing papers. If you are a naturally curious and innovative person with a Ph.D. in Computer Science or Computer Engineering looking for a home which will provide you with purpose and opportunity, we may be just the place for you!

## Responsibilities

- Open-ended exploration
- Self-management, project management, and benchmarking
- Continuous learning
- Own full technical responses to proposal topics
- Prototype technical solutions to customer needs, from both technical and commercial use perspectives
- Write proposals for funding to implement, deploy, and commercialize novel technology


## Requirements

- Ph.D. in Computer Science, Computer Engineering, or another relevant field
- Strong computer science skills
- Experience using $\mathrm{C}^{++}$and Linux
- Professional empathy
- Initiative to rapidly learn new skills and assume project ownership
- Strong technical writing ability
- Ability to apply the Scientific Method to software engineering


## About Us

We founded Grier Forensics to make a tangible impact on our nation's security. We provide forensic, security, and cyber technology solutions for clients across the defense, intelligence, government,

## Professional Opportunities

industry sectors. Our team includes engineers, scientists and subject matter experts who share the goal of pushing boundaries to do the unprecedented. New challenges require new solutions. We strive to advance mission capabilities through the power of science.

## Location

Hybrid/Owings Mills, MD - opportunity for remote work varies by position, experience, and skill level. This role will generally require at least one day per week onsite in our office. Alternate hybrid schedules may be available for wellqualified candidates.

## What You'll Love About Us

- Work Life Balance: We whole-heartedly believe that your work should empower your life and your life should empower your work!
- Health Benefits: Medical, Dental, and Vision plans available, as well as a partnership with Wellable for health challenges and on-demand wellness courses
- Take Time for Yourself: Flexible PTO plan aimed to make sure you are able to recharge
- Plan for the Future: Retirement plan with a generous company match
- Professional Development: You are encouraged to utilize resources to challenge and grow your skills, including a Udemy membership for professional development
- Mission-Oriented: Our environment is driven by a strong Mission Statement and mission-oriented culture


## Grinnell College

Computer Science Postdoctoral
Fellowship, 2-Year (Start Fall 2023)
GRINNELL COLLEGE. The Department of Computer Science invites applications for a two-year Postdoctoral Fellowship in Computer Science beginning Fall 2023. Eligible candidates must have received their terminal degree in Computer Science or a closely-related discipline within 3 years or later of their start date. Eligible candidates should also have a strong interest in undergraduate education and a desire to gain teaching experience under the mentorship of experienced educators. The candidate will conduct research on the foundations of program synthesis at the intersection of programming language theory and human-computing interaction. The candidate will also teach courses at the introductory CS level and in their area of expertise.

In letters of application, candidates should discuss their potential to contribute to a college community that maintains a diversity of people and perspectives as one of its core values. We will begin reviewing applications on April 10th, 2023.

Please visit our application website at https://jobs.grinnell.edu to find more details about the job and submit applications online. Candidates will need to upload a letter of application, curriculum vitae, transcripts (copies are acceptable), research statement, teaching statement, and provide names and email addresses to request three confidential letters of recommendation.

Questions about this search should be directed to the search chair, Professor Peter-Michael Osera at CSSearch@ grinnell.edu or 641-269-3169.

## Gustavus Adolphus College

Mathematics, Computer Science, and Statistics: Computer Science

Gustavus Adolphus College invites applications for a tenure-track position of Assistant Professor or Associate Professor of Computer Science to begin September 1, 2023. The department is considering applicants with prior experience teaching programming either in a classroom, professional or laboratory setting. We seek candidates who have an earned doctorate in computer science (or a closely-related discipline), but will consider candidates who have achieved ABD status.

Visit http://gustavus.edu/jobs for application instructions.

Review of applications will begin on March 29, 2023 and continue until the position is filled.

EOE
Employer/Disabled/Vet

## Harvey Mudd College

One-year/Two-year Visiting Professor Positions in Computer Science (open rank)

The Computer Science Department at Harvey Mudd College (HMC) invites applications for one-year and two-year

## Professional Opportunities

Visiting Professor positions in computer science starting in the 2023-24 academic year. Candidates in all areas of computer science and at all ranks, including Associate or Full Professors planning a sabbatical or retirement visit, will be considered.

HMC is a highly selective undergraduate liberal arts college (900 students) emphasizing science, mathematics, and engineering. HMC is part of the Claremont Colleges consortium, which includes five colleges and two graduate schools. The Computer Science Department currently has sixteen tenure-track faculty members and anticipates searching for additional tenuretrack faculty during the 2023-24 academic year. The department and the college place a high value on effectively engaging students from traditionally underrepresented groups, and candidates from these groups are especially encouraged to apply.

## Learn more/Apply at: https://

 academicjobsonline.org/ajo/jobs/24333Harvey Mudd College is an equal opportunity and affirmative action employer committed to providing a workplace free of discrimination, harassment, and disrespectful or other unprofessional conduct (HMC EEO/ Nondiscrimination Statement).

## Hunter College of the City University of New York (CUNY)

Computer Science Lecturer/Doctoral Lecturer

The Department of Computer Science at Hunter College invites applications for
lecturer and doctoral lecturer positions to begin in Fall 2023, or January 2024. The Department specifically seeks applicants with a demonstrable ability to teach a broad range of topics in computer science.

Located on the 68th Street campus on the Upper East Side of Manhattan, the small but diverse faculty of the Computer Science Department at Hunter works closely with students and each other in an open and collegial atmosphere.

The successful candidate will be expected to design curricula, oversee adjuncts and undergraduate teaching assistants and deliver lectures in the department's core undergraduate curriculum which often have $200+$ students in attendance as well as share responsibility for committee and other departmental assignments. The Department has a computer science master's program and a computer science K-12 education program jointly with Hunter's School of Education. Applications that demonstrate the ability to teach courses at the master's level are encouraged.

For details and to apply, visit: http://cuny. jobs and log in or create a new account then search for keyword: 26524 or 26214.

Lecturer (26524)
https://cuny.jobs/new-york-ny/ lecturer-computer-science/
A34B76296DA3420C8EEE06C9330E05A5/ job/

Doctoral Lecturer (26214)
https://cuny.jobs/new-york-ny/lecturer-doctoral-schedule-computer-science/ FBF9B066917549DBB5CCB8767C807F90/
job/

## Indian Institute of Technology Jodhpur

Faculty Position at Department of CSE
The Department of CSE at IIT Jodhpur invites applications for faculty positions at all levels in all core and applied areas of computer science. Candidates should have a PhD degree in CSE or a related field. The candidates are expected to have excellent research track record and commitment towards teaching.

About IIT Jodhpur: IITJ has a sprawling campus of over 850+ acres with 4000 students and 220+ faculty members with the department of CSE having 20 faculty members. The department (https://cse.iitj. ac.in// coordinates the BTech, MTech and MTech-PhD programs in CSE and AI, along with PhD in CSE. The institute also houses the Technology and Innovation Hub on CV, AR and VR.

Any Indian national, PIO, foreign national is eligible to apply. Rules of Gol will be applicable for terms and conditions of the appointments including the salary and benefits. Benefits include relocation expenses, maternity/paternity leaves, a generous initiation grant, PhD student support, on campus housing (if available), access to on-campus medical facilities, access to on-campus sports facilities etc.

For any clarification, candidates may reach out to head-cse@iitj.ac.in.

Interested candidates are encouraged to apply via https://oa.iitj.ac.in/OA_REC_ Faculty/.

## Professional Opportunities

## Old Dominion University

Lecturer in Cybersecurity (Non-Tenure Track, 3 Positions, FI036Al, FIO37AI, FI038AI)

The School of Cybersecurity at Old Dominion University (ODU) invites applications for three lecturer positions to support graduate education at the School. We place high value on excellence in teaching and seek to complement the existing academic strengths in cybersecurity and cyber operations. The lecturers are expected to be able to develop new cybersecurity courses to support the growth of the cybersecurity program. These positions also require advising undergraduate and graduate students.

Successful applicants are expected to have demonstrated successful teaching experience in cybersecurity or cyber operations. An M.S. in cybersecurity, computer science, computer engineering, or a closely related field is required for appointment. A Ph.D. is preferred. Applicants with teaching experience in hands-on lab courses in cybersecurity (cybersecurity techniques \& operations, ethical hacking, etc.) are especially encouraged to apply.

Applications must be submitted online at https://jobs.odu.edu/postings/I7873 and include a cover letter, CV, statement of teaching philosophy, statement of plans to advance diversity, equity, and inclusion, unofficial graduate transcripts, and contact information for three professional references.

Review of applications will begin on April 3rd, 2023 and continue until all positions are filled.

Candidates inquiring about the role should contact Dr. Rafael Diaz (rdiaz@odu.edu)

ODU is an equal opportunity, affirmative action institution. Minorities, women, veterans, and individuals with disabilities are strongly encouraged to apply.

## Stanford University

Lecturer in Stanford's Symbolic Systems Program

The Symbolic Systems Program at Stanford seeks to hire a lecturer for a three-year, renewable term. Symbolic Systems is a unique, interdisciplinary program focused on the intersection of minds and machines. We offer a rigorous BS program with concentrations in artificial intelligence, cognitive science, natural language processing, neuroscience, human-computer interaction, and other areas as well as a small research-focused MS degree.

Application at: https:// academicjobsonline.org/ajo/ program/244l5

Further information about Stanford Symbolic Systems is at https://symsys. stanford.edu. Directed inquiries to Michael Frank, Director, mcfrank@stanford.edu.

Application review begins March 15th.

## Temple University <br> Postdoctoral Position in Computer Vision or ML <br> A postdoctoral associate position is available in the Department of Computer and Information Sciences at Temple University. For this position, we welcome applicants with a focus on computer vision, machine learning, or related areas to work on projects related to image retrieval, representation learning for images, and/or the societal impacts of computer vision algorithms. <br> For more information: https:// academicjobsonline.org/ajo/jobs/23793

## TU Wien

Assistant Professor with Tenure Track of Database Theory

Announcement of an open position at the Faculty of Informatics at TU Wien for an

## Assistant Professor with Tenure Track of Database Theory

The Faculty of Informatics at TU Wien invites applications for a full time Assistant Professor position with tenure track. The position is directed to Database Theory and is affiliated to the Institute of Logic and Computation, Research Unit Databases and Artificial Intelligence. The estimated starting date is December, 2023. The work contract is initially limited to six years. The candidate and TU Wien can agree upon a tenure evaluation, which when positive, opens the possibility to change the position to Associate Professor with an unlimited contract.

## Professional Opportunities

# Stony Brook University 



Assistant Professor, Artificial Intelligence, Machine Learning and Data Science - Applied Mathematics and Statistics, College of Engineering and Applied Sciences
Location: Stony Brook, NY
Open Date: Nov 03, 2022
Deadline: Mar 31, 2023 at 11:59 PM Eastern Time
Description:
Stony Brook University's Department of Applied Mathematics and Statistics invites applicants for a tenure-track faculty position at the Assistant Professor level with an expected start date of Fall 2023. Exceptionally qualified candidates in all areas of statistics and data science are invited to apply; particularly encouraged are those in areas of Statistical Machine Learning, Artificial Intelligence, and their applications. The ideal candidate will have superb communication skills that enable effective collaboration, mentoring, and teaching.
The Assistant Professor will be responsible for teaching and conducting scholarly research. 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.
Anticipated Start Date: August 17, 2023
Required Qualifications:
Ph.D. in Statistics, Data Science, Applied Mathematics, Computer Science, or a related field and should have a strong record of scholarly research. Preferred Qualifications:
Experience in teaching excellence and have a very high potential for leading an outstanding research program and for securing research support. Evidence of expertise in data science and statistical machine learning, including experience with prototyping statistical and machine learning solutions, experience with data visualization tools, cloud services, and/or relational databases

## Application Instructions:

## To Apply, Visit: https://apptrkr.com/3912192

Applications received by February 28, 2023 will receive full consideration. Candidates who apply on or after March 1, 2023 will be considered on a rolling basis until the position is filled.
The below documents are required and must be submitted through Interfolio.

1) Cover Letter
2) Curriculum Vitae
3) Research Statement
4) Teaching Statement
5) Three letters of recommendation

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@interfollio.com or (877) 997-8807.
For questions regarding this position, please contact search chair, Professor Wei Zhu athttp://wei.zhu@stonybrook.edu.
Special Notes:
This is a tenure track position. FLSA Exempt position, not eligible for the overtime. Internal and external search to occur simultaneously.
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: https://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.

## Professional Opportunities

## Stony Brook University



Assistant Professor, Data Science - Applied Mathematics and Statistics, College of Engineering and Applied Sciences
Location: Stony Brook, NY
Open Date: Feb 13, 2023
Deadline: Mar 31, 2023 at 11:59 PM Eastern Time
Description:
Stony Brook University's Department of Applied Mathematics and Statistics invites applicants for two tenure-track Faculty Positions at the Assistant Professor Level with an expected start date of Fall 2023. Exceptionally qualified candidates in all areas of statistics and data science are invited to apply. The ideal candidate will have superb communication skills that enable effective collaboration, mentoring, and teaching. The selected candidate(s) will be responsible for teaching and conducting scholarly research, and service to the department and Stony Brook University. The Department values diversity and seeks candidates who can contribute to a welcoming climate for all students.
Anticipated Start Date: Fall 2023
Required Qualifications:
Ph.D. in Statistics, Data Science, Applied Mathematics, Computer Science, or a related field and should have a strong record of scholarly research.
Preferred Qualifications:
Candidates with demonstrated excellence in teaching. High potential for leading an outstanding research program and securing research support. Evidence of expertise in data science, experience with data visualization tools, cloud services, and/or relational databases.

## Application Instructions: <br> To Apply, Visit: https://apptrkr.com/3907427

Applications received by March 31, 2023 will receive full consideration. Candidates who apply on or after April 1, 2023 will be considered on a rolling basis until the position is filled.
The below documents are required and must be submitted through Interfolio:

1) Cover Letter
2) Curriculum Vitae
3) Research Statement
4) Teaching Statement
5) Three letters of recommendation

All application materials must be submitted online. Please use the Apply Now button to begin your application.
For technical support, visit Interfolio's SupportSite (hthps://support.interfolio.com) or reach out to their Scholar Sevvice Team at help@interfollio.com or (877) 997-8807.
For questions regarding this position, please contact search chair, Professor Wei Zhu at: http://wei.zhu@stonybrook.edu.
Special Notes:
This is a tenure track position. FLSA Exempt position, not eligible for the overtime. 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: https://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.

## Professional Opportunities

## Focus:

Our data and knowledge-driven society crucially depends on innovative solutions to data management problems. Database Theory aims to provide a solid formal and algorithmic framework of methods, techniques, and solutions for data management.

The following non-exhaustive list highlights some potential topics of a successful candidate:

- Database design: data models, query languages, schemas, constraints
- Database processing: query evaluation, query optimization, query decomposition, approximate data processing
- Query processing in knowledge bases and knowledge graphs
- Rule-based query languages and extensions
- Database access: data structures, access methods, concurrency, transactions
- Interaction of databases and machine learning; knowledge discovery from databases and/or knowledge graphs; rule learning
- Interoperability: mappings and views, data integration, data exchange, ontologybased data access using rule-based languages
- Logical foundations of databases; databases and logic programming; extension of databases beyond classical logic

Candidates will be evaluated according to their academic age. A successful candidate should have a relevant postdoctoral experience and a compelling research vision. We expect publications in top-tier conferences and/or journals in or
connected to the area of Database Theory and the demonstration of successful independent research.

We are particularly interested in candidates working in areas that will complement our existing expertise and lead to fruitful collaborations with other members of the Faculty of Informatics and TU Wien in general.

Detailed information can be found at: https://informatics.tuwien.ac.at/ news/2274

Applications should be addressed to: https://jobs.tuwien.ac.at/Job/19833

Application deadline: April 13, 2023

## TU Wien

## Assistant Professor with Tenure Track of Learning Technologies and eDidactics

Announcement of an open position at the Faculty of Informatics at TU Wien for an
Assistant Professor with Tenure Track of Learning Technologies and eDidactics

The Faculty of Informatics at TU Wien invites applications for a full time Assistant Professor position with tenure track. The Faculty of Informatics seeks to expand its competence in Learning Technologies and eDidactics. The position is affiliated to the Institute of Information Systems Engineering. The estimated starting date is October, 2023. The work contract is initially limited to six years. The candidate and TU Wien can agree upon a tenure evaluation, which when positive, opens the possibility to change the position to Associate Professor with an unlimited contract.

## Focus:

The successful candidate will have an outstanding research and teaching record in the field of Learning Technologies and eDidactics, which deals with digital education and learning. This includes novel ways of designing, developing, applying and evaluating digital teaching and learning systems and approaches for all educational levels (from pre-school to university level). We are particularly interested in candidates working in areas that will complement our existing expertise and lead to collaborations with other members of the Faculty of Informatics and TU Wien in general. The candidate will play an important leading role in the faculty's outreach program to schools focusing on informatics education and computational thinking.

The research areas of the candidate should cover some of the following topics but are not limited to them:

- Digital education and learning Technology-supported research-based teaching and learning
- Innovative digitalization of education including, among others, distance education and distance assessment,
- MOOC development and integration of MOOCS in education and academic teaching, e-learning platforms, inclusive and adaptive technologies, current and future technologies for education (mixed reality, artificial intelligence, ...), hybrid/ blended learning
- Innovative practices with learning and supporting technologies
- E-learning didactics, learner centered didactics, personalization


## Professional Opportunities

- Empirical education research
- Gender, diversity and ethical issues in digital education
- Learning analytics

Besides research, the duties of an Assistant Professor at TU Wien include graduate and undergraduate teaching (in English and German) as well as contributing to usual management and faculty service tasks.

Detailed information can be found at: https://informatics.tuwien.ac.at/ news/2367

Applications should be addressed to: https://jobs.tuwien.ac.at/Job/203702

Application deadline: April 27, 2023

## TU Wien

University Professor for the specialist field of Privacy

Call for applications - Full Professorship in Privacy at TU Wien

The Faculty of Informatics at TU Wien would like to further strengthen its profile in the field of Privacy with a strong grounding in computational methods and demonstrated expertise in the design of innovative privacy-enhancing technologies that fulfil the needs of our digital society.

Detailed information is available at: https://informatics.tuwien.ac.at/ news/2272

Applications should be directed to: https://jobs.tuwien.ac.at/Job/203700

Application deadline: May 4, 2023

## University of Arizona

Director, Center for Biomedical Informatics and Biostatistics

The University of Arizona invites applications and nominations for the role of Director of the Center for Biomedical Informatics and Biostatistics (CB2).

Reporting to the Senior Vice President for Health Sciences, who in turn reports to the University's president, CB2's Director oversees core informatics services for UArizona Health Sciences. CB2 currently supports faculty and researchers with electronic data capture, health informatics, biospecimen management, and statistical consultation. The Director is a key member of the UArizona Health Sciences senior leadership team, which includes Health Sciences Vice Presidents, College Deans, and other Center Directors. For a full description of the role, including qualifications, please see here.

The University of Arizona has engaged Opus Search Partners to support the recruitment of this position. Craig Smith, Partner, and Chris Stadler, Associate, are leading the search. Inquiries, applications, and nominations should be sent by email to Chris (chris.stadler@opuspartners. $n e t)$. The search process will unfold with the greatest possible attention to candidate confidentiality. Required application materials include a CV and a cover letter that addresses the required and preferred qualifications of the role, its responsibilities, and the University's expectations of CB2 and its Director including with regard to diversity, equity, and inclusion.

## University of Arizona

Tenure or Tenure-track Assistant or Associate Professor - Quantum

The Department of Electrical and Computer Engineering, University of Arizona invites applicants for a tenure/ tenure-track faculty position at an Assistant/Associate Professor level to advance the deparment's research activities in experimental quantum information science and engineering.

Candidates in experimental QISE research are encouraged to apply. The specific areas of interest include but are not limited to quantum communications, quantum networking, quantum sensing, photonic quantum information processing, quantum interconnects, intermediate-scale and large-scale quantum processors, quantum repeaters, quantum nanophotonics and silicon photonics, quantum machine learning, and quantum security.

## The position start date is August

 2023. For more information and to apply visit https://arizona.csod. com/ux/ats/careersite/4/home/ requisition/l259l?c=arizona
## University of Central Arkansas

Non-Tenure-Track Positions in Computer Science and Tenure-Track Positions in Cybersecurity

The Department of Computer Science and Engineering at the University of Central Arkansas is seeking candidates for two non-tenure-track Lecturer I positions in Computer Science and two tenure-

## Professional Opportunities

track Assistant Professor positions in Cybersecurity, Cybersecurity Engineering, or Cyber Engineering beginning in August 2023. Currently, the department has 13 full-time faculty members and offers BS programs in Computer Science (accredited by the ABET CAC), Computer Engineering, Cybersecurity, and Data Science, as well as an MS program in Computer Science.

For the lecturer positions, a Master's degree in Computer Science, Computer Engineering, Electrical Engineering, or a related discipline is required. For the assistant professor positions, a doctorate in Computer Science, Computer Engineering, Electrical Engineering, or a related discipline with a focus on Cybersecurity, Cybersecurity Engineering, or Cyber Engineering is required. However, candidates nearing completion will also be considered for both types of positions. The successful candidates will teach in our student-centered undergraduate and graduate programs and engage in research (only for the assistant professor positions) and professional service.

Applicants should submit a cover letter, a curriculum vitae, statements of teaching and research (only for the assistant professor positions), unofficial transcripts, and contact information for at least three references via https://jobs.uca. edu/postings/l2410 (lecturer positions) or https://jobs.uca.edu/postings/II725 (assistant professor positions).

The review of applications will begin on March 1, 2023, and will continue until the positions are filled.

For questions, contact the department chair at ecelebi@uca.edu. Additional
information about the department is available at https://uca.edu/cse.

UCA is an EO/AA Employer.

## University of Illinois at Chicago

Tenure Track Faculty (Computer Science)

## Extended Search

Located in the heart of Chicago, the UIC CS department anticipates hiring multiple tenure track faculty at all ranks starting from Fall 2023 (with preference to candidates at the Assistant and Associate Professor ranks). Candidates working in Computer Systems and Networks, Languages and Compilers, Software Engineering, Computer Graphics, Computer Security, Cryptography, Databases, and related areas are especially encouraged to apply. Outstanding candidates in all areas who could complement and enhance current department strengths will be considered. Candidates should have a PhD in Computer Science, Computer Engineering, or closely related fields, and the potential for excellence in teaching and research.

Applications must be submitted at https:// jobs.uic.edu/, and must include a l-page cover letter, curriculum vitae, teaching, research and diversity statements, and names and addresses of at least three references. Links to a professional website such as Google Scholar or Research Gate are recommended.

Applicants may contact the faculty search committee at cs-tt-search@uic.edu for more information.

For fullest consideration, applications must be submitted by November 30, 2022. Applications will be accepted until the positions are filled.

The Department of Computer Science at UIC, which is expected to hire between 15 and 25 new faculty in the next 5 years, has 42 tenure-system faculty, 5 research faculty with strong and broad research agendas, and 17 clinical/teaching faculty. The department is committed to building a diverse faculty preeminent in its missions of research, teaching, and service to the community. Candidates who have experience engaging with a diverse range of faculty, staff, and students, and contributing to a climate of inclusivity are encouraged to discuss their perspectives on these subjects in their application materials.

Construction of a new building housing the UIC Computer Science department is under way; the building is expected to open in calendar 2023. The building will include 80 faculty offices, 16,000 square feet of classroom space, 23 shared student offices, many collaborative learning and teaching spaces, and a geothermal farm to assist with sustainable heating and cooling.

UIC is a major public research university (Carnegie RI) with about 3,100 faculty and 34,000 students. UIC is committed to increasing access to education, employment, programs, and services for all. UIC is committed to supporting the success of dual-career couples.

Chicago epitomizes the modern, livable, vibrant, and diverse city. World-class amenities like the lakefront, arts and

## Professional Opportunities

culture venues, festivals, and two international airports make Chicago a singularly enjoyable place to live. Yet the cost of living, whether in an 88th floor condominium downtown or on a tree-lined street in one of the nation's finest school districts, is remarkably affordable.

## Duties \& Responsibilities

Teach
Conduct Research
Mentor Students

## Qualifications:

## Minimum Qualifications

PhD in Computer Science, Computer Engineering or closely Related Field and the Potential for Excellence in Teaching and Research

The University of Illinois at Chicago is an affirmative action, equal opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, gender identity, sexual orientation, national origin, protected veteran status, or status as an individual with a disability.

Offers of employment by the University of Illinois may be subject to approval by the University's Board of Trustees and are made contingent upon the candidate's successful completion of any criminal background checks and other preemployment assessments that may be required for the position being offered. Additional information regarding such pre-employment checks and assessments may be provided as applicable during the hiring process.

The University of Illinois System requires candidates selected for hire to disclose any documented finding of sexual misconduct or sexual harassment and to authorize inquiries to current and former employers regarding findings of sexual misconduct or sexual harassment. For more information, visit https:// www.hr.uillinois.edu/cms/One. aspx?portal/d=4292\&page/d=1411899.

## University of Maryland, College Park

## Lecturer (Open Rank) - Data Science and Cybersecurity

The College of Information Studies at the University of Maryland, College Park (Maryland's iSchool), invites applications for a full-time, professional track lecturer, who is highly competent, energetic, collegial, and flexible, to join our exciting environment. The Lecturer will both teach and develop new curricula in the areas of cybersecurity and data science. The successful candidate will teach three courses per semester (fall and spring) while also working on development of new courses, programs, and curricula in this area. Teaching load may be reduced during periods of substantial curriculum development work.

Some of the existing classes the successful candidate might teach include:

- Human-Centered Cybersecurity
- Decision-Making for Cybersecurity
- Ethical Hacking
- Cognitive Security
- Cyber Risk Modeling
- Data Science
- Modeling and Simulating Systemic Problems
- Management with Data and Models The successful candidate will teach at the undergraduate and graduate levels, engage in service to the profession and shared governance within the university, and participate actively in the life of the college.

Best consideration date: March 31, 2023

For more information about the position and to apply, please visit: https://ejobs.umd.edu/postings/105139

## University of New Haven

Tenure Track Assistant Professor Data Science

Tagliatela College of Engineering
Search \#23-20F
The Connecticut Institute of Technology (CIT) at the University of New Haven seeks qualified candidates for a lecturer position in Data Science. Academic areas of interest include, but are not limited to, data engineering, data visualization, cyber security, natural language processing, machine learning, quantitative social science, and statistics.

Successful candidates will have Ph.D. degree in Data Science, Informatics, Computer Science, or a related field, a commitment to excellent teaching, and effective communication skills. The expected start date is Fall 2023. For full description https://apply.interfolio. com/l2l264

## Professional Opportunities

## UNLV

## Assistant Professor of Cybersecurity Computer Science Department Howard R Hughes College of Engineering

The University of Nevada, Las Vegas invites applications for Assistant Professor of Cybersecurity, Computer Science Department, Howard R Hughes College of Engineering [R0133071].

## ROLE of the POSITION

The Department of Computer Science (CS) at the University of Nevada, Las Vegas (UNLV) invites applications for a full time, tenure-track, Assistant Professor of Cybersecurity commencing Fall 2023. The areas include but not limited to application security, cloud security, digital forensics, web security, identity and access management, and AI/ML-based methods. CS department is home to the UNLV's National Center of Academic Excellence in Cyber Defense (CAE - CD) designated by National Security Agency (NSA). Applicants must demonstrate superior research and scholarship potential as well as excellent teaching ability. The successful candidate will be expected to develop and maintain extramurally funded research projects, provide outstanding teaching at the undergraduate and graduate levels, mentor graduate students, contribute to professional and university services, and participate broadly in the computer science curriculum.

## PROFILE of the DEPARTMENT/COLLEGE

The Department of Computer Science is one of the fastest growing departments at UNLV. Comprising just under half of the Howard R. Hughes College of Engineering total enrollment, the department's focus is on providing a well-rounded education with a solid basis in the fundamentals of computer science. Our students and alumni are well-represented in the field, with many taking on employment locally and nationally.

## MINIMUM QUALIFICATIONS

This position requires a PhD in Computer Science from an accredited college or university as recognized by the United States Department of Education and/or the Council on Higher Education Accreditation (CHEA). All But Dissertation Status (ABDs) may be considered but credentials must be obtained prior to the start of employment.

The successful candidate will have a strong research program in Cybersecurity, as evidenced by publications in premier journals and conferences and/or a successful history of receiving/submitting grants.
For more information, please visit https://www.unlv.edu/jobs
For assistance with the application process, please contact UNLV Human Resources at (702) 8953504 or unlvjobs@unlv.edu

EEO/AA/Vet/Disability Employer

## University of New Orleans

One Postdoctoral Research Position
The Canizaro Livingston Gulf States Center for Environmental Informatics (GulfSCEI) at the Computer Science department of the University of New Orleans has one postdoctoral position open in machine
learning, digital twins, cloud computing and environmental informatics. These research positions will primarily focus on a new GulfSCEI project aimed at AI Automation to detect Flood Deficiencies in Flood Water Control Structures. Selected candidates are expected to participate in the design, plan, coordination, and
implementation of tasks in support of the project. The position's start date is in May 2023 or sooner.

See further details and apply at: https://ulsuno.wdl.myworkdayjobs.com/ en-US/UniversityOfNewOrleans/details/ Postdoctoral-Research-Associate---POA_R-000877-I?locations=2c405185165b 01919372af8fb4025Id2

## University of North Texas

Asst. Professor/Assoc. Professor

The Computer Science and Engineering Department at the University of North Texas (UNT - A Carnegie RI Institute in the Dallas-Fort Worth Metroplex) has multiple tenure track Assistant and Associate position openings. The department plans to contribute to the college priorities by hiring faculty who can strengthen or complement our existing strength areas of Algorithms and Computational Science, Artificial Intelligencel Machine Learning and Data Science, Bioinformatics, Computer Architectures, Computer Networking, Cybersecurity, Embedded Systems, Operating Systems, and Software Engineering. Our hires will also contribute to the College of Engineering wide priorities in the areas of Artificial Intelligence/Machine Learning, Autonomous Vehicles, Digital Manufacturing, and Smart Sensors.

Position start date is in August 2023.
For more information and to apply visit: https://jobs.untsystem.edu/ postings/68591

## Professional Opportunities

# University of South Florida 

Instructional Faculty, Computer Science and Engineering

The University of South Florida invites applications for instructional faculty Computer Science and Engineering

The Department of Computer Science and Engineering is seeking to hire multiple instructional faculty 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 who have a strong capability in teaching hands-on skills in cybersecurity. Interest or past experience in advising student organizations for cybersecurity competitions is desired. Candidates must have completed a PhD in computer science, computer engineering, cybersecurity, information technology, or a related engineering area from an accredited institution. Preference will be given to candidates with industry experience and/or teaching experience in an ABET accredited program. We expect successful candidates to contribute to our diversity and inclusion efforts. This recruitment is for a non-tenure earning full-time 12-month position. Successful candidates are expected to start in spring 2023 or fall 2023.

## Computer Science and Engineering

 has 28 tenure-track/tenured faculty members, 11 full-time instructional faculty,2 visiting assistant professors, and 7 staff members/advisors, and offers BS, MS, and PhD degrees, serving over 2600 undergraduates, over 200 masters, and about 100 PhD students. USF CSE has a strong working relationship with CyberFlorida. CSE ranks include eleven NSF CAREER awardees, one National Academy of Inventors (NAI) Fellow, three IEEE Fellows, three IAPR Fellows, three AAAS Fellows, and three AIMBE Fellows. USF CSE is in the top $15 \%$ of Computer Science departments in US public universities. This ranking is according to most recent Academic Analytics data based on Scholarly Research Index AAD2020 using default weights for grants, articles, conferences, awards, and citations. For the fiscal year 20202021, the CSE had $\$ 4.5$ million in research expenditures with funding from NSF, DARPA, NIH, and the industry.

Established in 1964 and currently led by Dean Robert H. Bishop, the College of Engineering at the University of South Florida is ranked \#57 among public institutions (\#92 overall) by U.S. News \& World Report's 2023 engineering graduate school rankings. The college serves more than 6,600 students, offering eleven bachelor's programs, nine are ABETaccredited, as well as 15 master's and eight doctoral degrees. The College is actively engaged in local and global research activities with $\$ 41$ million in research expenditures for the fiscal year 2020-2021. The College has 12 major research centers and institutes and is actively engaged in local and global research activities focused on sustainability, biomedical engineering,
artificial intelligence, cybersecurity, and transportation.

The University of South Florida is a high-impact global research university dedicated to student success, generates an annual economic impact of more than $\$ 6$ billion. Over the past 10 years, no other public university in the country has risen faster in U.S. News and World Report's national university rankings than USF. Serving more than 50,000 students on campuses in Tampa, St. Petersburg and Sarasota- Manatee, USF is designated as a Preeminent State Research University by the Florida Board of Governors, placing it in the most elite category among the state's 12 public universities. USF has earned widespread national recognition for its success graduating underrepresented minority and limited- income students at rates equal to or higher than white and higher income students. 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). In your statement, please share your understanding of diversity and how you have been effective at promoting inclusive excellence among diverse populations in teaching. Applicants must electronically submit the application packet as one PDF file to: https://www.usf.edu/work-atusf/careers. For consideration, please apply to the appropriate position level (Assistant Professor of Instruction, search

## Professional Opportunities

Job ID \#32116 and Associate Professor of Instruction, search Job ID \#32118).

Applications will be considered starting immediately.

USF celebrates diversity and inclusive excellence in alignment with our Principles of Community. We believe our future success as an institution requires that we attract and retain a diverse workforce. We are proud to be an equal opportunity workplace and an affirmative action employer. All job decisions at USF are made without regard to race, color, ethnicity, religion or belief, age, disability, sexual orientation, gender identity or any other status protected by the laws or regulations in the locations where we operate. The University of South Florida is an Equal Opportunity/Equal Access/Affirmative Action Institution. Women and minorities are strongly encouraged to apply. 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

## University of South Florida

Computer Science and Engineering
Tenure-Track Positions at All Ranks
The University of South Florida invites applications for tenure-track positions at all ranks Computer Science and Engineering.

Applications are invited for multiple tenure-track positions at all ranks in the

Department of Computer Science and Engineering. Preference will be given to candidates in strategic research areas that have high funding potential from federal funding agencies including NSF, NIH, DARPA, etc. This includes, but is not limited to, human-centered computing, software engineering, AR/VR, artificial intelligence, cybersecurity, social networks, and other high societal impact areas with a broad set of interested funding agencies. All candidates should have an established record of high-quality research publications, a commitment to excellence in teaching, and a willingness to collaborate with others in the department. Candidates for senior-level positions should also have an established research program with current funding. We expect successful candidates to contribute to our broadening participating in computing initiative. Candidates must have completed a PhD in computer science or a related discipline by the start time of the position. Affiliation with the USF Institute for Artificial Intelligence $+X$ and/or the Institute of Applied Engineering is possible for candidates with research areas that meet institute needs. The Institute for $\mathrm{Al}+\mathrm{X}$ is a university wide research and education center for Al with a focus on collaboration across disciplines. The Institute of Applied Engineering provides agile, best-value engineering solutions to enhance the performance, effectiveness and safety of its sponsors, including the Department of Defense; other federal, state and local agencies; and industry. Successful candidates could start in Spring 2023 or Fall 2023.

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## Professional Opportunities

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## 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, search Job ID \#32109, Associate Professor, search Job ID \#32110, Full Professor, search Job ID \#32111). Applications will be considered starting immediately.

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## University of St. Thomas

Limited-Term Faculty, Computer Science
The University of St. Thomas invites applications for a limited-term faculty opportunity within the Computer and Information Sciences (CISC) department.

This position is an appointment for up to five years at the Assistant Professor or Instructor level, starting fall 2023. The search committee welcomes applicants with expertise in any area of Computer Science. The successful candidate is expected to teach three undergraduate courses per semester in Computer Science. It is expected that a successful candidate will participate in professional engagement activities, either through research of professional practice, and engage in service to the department, college and/or university.

Please see www.stthomas.edu/jobs for a more detailed job posting.

Review of applications will begin on April 10, 2023 and will continue until the position is filled.

## University of Tulsa

Instructor in Computer Simulation and Gaming

The Tandy School of Computer Science at The University of Tulsa (TU) is seeking candidates to fill one Instructor position. The position is specifically designated for the area of Computer Simulation and Gaming (CSG). Applicants should possess a graduate degree in Computer Science or related field and demonstrate clear potential for teaching and advancing the reputation of TU in this specialty field. Applicants should also demonstrate a professional focus on education and pedagogy and commit to the development of strong curricula within Computer Science that meets industry needs

## Professional Opportunities

and prepares students for careers in computer simulation and gaming. Principal responsibilities for this position include teaching CSG courses, such as game design concepts, object-oriented programming for game development, game engine architecture, UI and UX design, and AR/VR development.

Applicants should submit the following documents through TU's online applications portal (http:// universitytulsa.peopleadmin.com/): (1) a CV, (2) a teaching statement, and (3) contact information for at least three references. Inquiries may be directed to csgfacultysearch22@utulsa.edu.

Applications will be reviewed upon receipt, and candidates are encouraged to submit their completed applications by March 15, 2023. The search will remain open until the position is filled.

The University of Tulsa seeks to recruit and retain talented students, faculty and staff from diverse backgrounds. A goal of this search is to increase the diversity of faculty in the Tandy School of Computer Science, and we therefore welcome applications from underrepresented groups such as Women, Black/African American, Hispanic/Latino, American Indian or Alaskan Native. The University of Tulsa is an Equal Opportunity Employer-F/M/D/V.

Utah State University

Computer Science Temporary Instructor
The Computer Science Department at Utah State University is seeking applications to fill a Temporary Instructor position, starting August 1, 2023. The position may be renewed contingent on funding and performance. Course mastery is sought in Python, Java, C++, web applications, cloud computing, mobile applications, desktop GUI development, UI/ UX design, operating systems, software engineering, programming language, and compiler construction.

Application reviews will begin in early March 2023.

Apply at: https://careers-usu.icims.com/ jobs/6152/temporary-instructor/job

EEO Employer/Veterans/Disabled https:// www.usu.edu/equity/non-discrimination

## Virginia State University

Assistant / Associate Professor of Computer Science

The College of Engineering and Technology (CET) at Virginia State University is hiring for a research faculty position. A doctorate (or obtain a doctorate by the end of the semester prior to the appointment date) in CS or a related field is required. The CET is seeking applications to fill a research faculty position to strengthen its foci in Cyber Security; Application Security; Network Security; Artificial Intelligence; Machine Learning; Blockchain; IoT; Cloud Computing and Data Science. Specialization in other areas of computer science will also be considered. Virginia State University will only accept applications through the online Recruitment Management System (RMS) at https://jobs.agencies.virginia.gov

If you have any questions, please contact Dr. Joon-Suk Lee (jlee@vsu.edu)

## Worcester Polytechnic Institute

## Open Rank Tenure-Track - Computer Science and Data Science

Worcester Polytechnic Institute is seeking faculty colleagues who engage deeply in both research and teaching within a curriculum that embraces student projects and independent learning, and a community that values diversity.
We anticipate hiring a tenure-track faculty member in the computing field starting Fall 2023.
The faculty member will join the Computer Science department to strengthen the strategic interdisciplinary area of Data Science at WPI. Candidates should have a PhD in Computer Science or a closely related field, and the potential for excellence in teaching and research.
Candidates should include detailed research and teaching statements, vitae and contact information for at least three references. Questions about the hiring process should be sent to gr-cs-ds-recruiting@wpi.edu.
The deadline for applications is March 15, 2023; however, applications will be considered on a rolling basis after that date until the position is filled.

To apply, please visit: https://apptrkr.com/3925284
GREAT MINDS at WORK


[^0]:    Source: Grad Cohort for Women Pre and Post Workshop Surveys 2022, Center for Evaluating the Research Pipeline, Computing Research Association
    Notes: Underrepresented doctoral students $(n=37)$ include participants who are African American/African/Black; Hispanic, Latinx, or Spanish origin; American Indian/Alaska Native; or Native Hawaiian/Pacific Islander.
    Respondents were given on a five-point scale from (1) Not at all true to (5) Extremely true.
    Statistically significant differences between means at Time 1 and Time 2 were analyzed using paired samplest-test and .05 significance level. ${ }^{*} p \leq 0.05 .{ }^{* *} p \leq 0.01$.

