Session 4: The Application and Decision Process, Part II

Thursday, October 12, 2023, 7pm ET
REMINDER!!
Please complete the CSGrad4US Entry survey administered by our external evaluator (Center for Evaluation & Research for STEM Equity @ UW)

e-mail from
From Name: Erin Carll
From Email: noreply@qemailserver.com
Reply Email: ecarll@uw.edu
Subject: CSGrad4US Evaluation Survey

Closes on Sunday, October 15
The Application and Decision Process, Part II

Previous sessions

• Preparing a strong PhD application (general guidelines)
• Identify what you are looking for in a PhD program
• Identify potentially suitable programs
• Understand the admissions process

Session 4

• Revisit
  • Contacting a possible adviser
  • Identifying letter writers
• Choices to make: research area, adviser, research topic
• The importance of campus visits
Contacting Potential Advisors

Very common: Applicants are accepted if a faculty commits to advise.

What should I do?
• Explore and identify programs and faculty in your areas of interest

Before reaching out to faculty: Do your homework!
• Look out for specific instructions on their webpage about what to do before contacting them.
• Are you familiar with their recent research activities?
• Have you reviewed samples of their papers or presentations?
• What work interests you the most?
• Not: Dear X, I am very interested in your research area …
Contacting Potential Advisors (2)

Send an email
• Include your CV and (briefly) introduce yourself
• State that you have a fellowship (include a 1-pager about CSGrad4US)
• If you graduated 5+ years ago, consider highlighting relevant working experience
• Talk to your coach on what to highlight in the email

Two options when to contact
1. Before you apply
   • You get a sense of interest and whether it is a good match.
   • You may or may not apply
2. After you have applied
   • You should have mentioned the name in the application. They most likely have read the application before talking to you
Contacting Potential Advisors (3)

- What if I don’t get a reply?
  - Mail got lost, not taking on new students, not interested
  - Can send a reminder, but no more
- What if their webpage states “Do not contact”, “Put my name into your application”?
  - Follow the guidance
- What if their webpage is quite outdated?
  - It happens
  - Publications and some activities can be found in other ways (e.g., Google scholar)
Contacting Potential Advisors

After your email …

• If you receive a positive response:
  • Request a meeting (call or Zoom)
  • Prepare to talk about their research and your experience/interests

If your letter writers (or coach or area adviser) know faculty of interest, ask whether they would make contact and advocate for you
CS versus I-school: Expected background

Applying to a CS program

• The majority of the students will have a BS/BE in CS/CE
• If background is equivalent to a minor in CS, some additional coursework may be recommended
• An admitted student can generally switch advisers

Applying to an I-school program

• I-schools contain diverse and broad subareas, with each subarea generally having its own background expectations/skills of admitted PhD students
• Identifying the faculty/subareas of research interests is crucial
  • Explicitly asked to identify multiple faculty / interests in application
• Reach out to the faculty about background expectations for admissions and working with them
  • Focus your application on those characteristics
CISE Programs @ UW

- **Paul G Allen School** of Computer Science & Engineering
  - Offers PhD in Computer Science
  - Admission is highly competitive; about 5% acceptance rate with 3000 applications

- **Information School**
  - PhD degree in Information Science; requirements are flexible and CISE content depends on research area
  - About 17% acceptance rate with 150 applications
  - Faculty has diverse backgrounds

- **Department of Human Centered Design and Engineering**
  - Contains CISE research areas and CISE faculty (e.g., Kate Starbird)
  - A Department in the College of Engineering

- **Electrical and Computer Engineering**
  - Contains CISE research areas and CISE faculty
CISE Programs @UC Irvine

- Bren School of Information and Computer Science
  - 3 departments: Computer Science, Informatics, and Statistics
  - PhD programs in CS and Informatics are CISE; Stat is not CISE
- PhD Admission to the Bren School
  - CS and Informatics have faculty with joint appointments
  - PhD admission is separate (each department has 2 PhD programs).
  - Compared to CS, Informatics has very different course requirements and a different qualifier system
- EECS Department in School of Engineering
  - The CS part of EECS offers a CISE PhD program; other parts of EECS may not (circuits and systems, EE systems)
  - “Professor of Electrical Engineering and Computer Science” refers to a person in EECS, not CS
Does the PhD program structure matter?

Need/want more background and more breadth?
• Choose a program with more required courses

Want to explore different research areas?
• Choose a program that gives flexibility on required breadth areas

Want to focus on research right away?
• Choose a program with fewer required courses

Already have an MS?
• Can credits be transferred?

Want to gain teaching experience?
• Are graduate students allowed to teach?

No program has a really easy to explore expected background, PhD milestone and requirement description.
More on Letter Writers

• Some letter writers will ask you which schools you plan to apply to before they agree to write a letter
• Academics know how to submit recommendation letters
  • May be new or unfamiliar for a colleague or boss
• Letter writers should know you/remember you. Help them remember!
• Many faculty keep records
  • Digital records (e.g., emails, Gradescope submissions)
• Top performance in an advanced course is often meaningful
How to Ask for a Recommendation (from Session 2)

- **Ask at least a month in advance**
- **Ask if they can write a strong, positive letter and give them a way to say "no"**
  - “I’m applying to graduate school. Would you feel comfortable writing a positive letter for me? If so, I’d be grateful. If you are not able to do this for any reason, I’ll certainly understand.”
- **Provide “fodder” for their letter**
  - Application (resume, statement of purpose, transcript)
  - Reminder of significant/shared events that you participated in and excelled at
  - We will provide a letter describing the Fellowship
  - Offer to have a conversation to update them on your career and goals
- **Provide industry writers with guidance on what to include**
  - Concrete experiences and projects
  - Strengths and weaknesses
  - Personal characteristics - independence, creativity, motivation, follow-through, communication, leadership, teamwork, etc.
Questions?
Clarifications?
Most important decisions a PhD student makes start at application time

Choose a research (sub)area, an adviser, a research topic
Common research areas

Security / Privacy / Information Assurance
Human-Computer Interaction
Software Engineering
Operating Systems
Scientific / Numerical Computing
Information Systems
Informatics: Bioinformatics / Other Science

Social Computing / Social Informatics
Artificial Intelligence / Machine Learning
Theory and Algorithms
High-Performance Computing
Programming Languages / Compilers
Information Science

Networking
Graphics / Visualization
Computing Education
Databases / Information Retrieval
Hardware / Architecture
Choosing a Research Area
(at application time and/or in year 1)

- What research topics excite you and why?
- How much knowledge and experience do you already have in that area?
- How strong are the department and research groups in this area?
- How many faculty members work in this area? What are their academic ranks?
- Is interest in the research area existing and growing?
Choosing a Research Advisor

- Renowned vs. beginning researchers
- Do your homework! Check out the following for a potential advisor:
  - How many students have graduated and when did they graduate?
  - How many papers (and where) did students publish with the advisor?
  - Where are those students now (academia, industry)?
- Determine if PhD students do industry internships that lead to publications
- Talk to students working with potential advisor
- Read faculty members' papers and watch research talks online
- Talk to faculty on Zoom
Choosing a Research Advisor (2)

- What is the advisors collaboration style like?
  - How responsive are they to email or stopping by their office?
- What is the frequency and duration of group and 1:1 meetings?
- Do students work on individual projects or in groups? Are there post-docs?
- Do they have funding for students as RAs and conference travel?
- Are they taking on new students? Taking a leave?
- How do they decide to accept new students?
- Do they co-advise students with other faculty?
- More viewpoints in a [PhD Adviser Guide](#) from CS@Columbia
Choosing a Research Advisor / Group

Research groups can have different organizations, interactions, and collaborations among the students and post-docs.

Common questions include

• How do new students learn about research?
• How do individual students find their individual thesis topics?
• How do group members collaborate?
• Do group members do peer-mentoring, especially for junior members?
• How is credit assigned on collaborative papers?
Breakout Session

What adviser-student interaction style do you feel will work best for you?
How are your choices influenced by supervisors you had?
Your personality?
Examples:
• Hands-off or hands-on adviser?
• Develop your skills independently or with peers?
• Work better alone or in a group?
• Self-motivated or want goals set?
• What is most important to you?
Choosing a Research Topic

- Want to be passionate about it
- Want advisor to be committed to it
- Want topic to still be of community interest (and funded) in 3-4 years
- Want a topic where you can make significant contributions over 3-4 years
  - avoid incremental or exceptionally difficult problems
  - potential for the future is important for an academic career
- Want a topic for which the needed resources are available

Note: An adviser may make an RA offer to work on a specific funded research topic. Can be a difficult decision for a student.
Choosing a Research Topic (2)

• Don’t state your research topic at the time of your application
  • okay to list topics of interest
• An adviser may make an RA offer to a student to work on a specific funded research topic.
  • can be a difficult decision for a student
• Changing adviser?
  • unclear what happens to the research topic
  • will be discussed more in session 5
Review of CSGrad4US Mentee Timeline

- Undergrad degree in CS or related area
- Industrial experiences
- Interest in a PhD

Before being selected as a Fellow
- Update your resume
- Draft personal statement
- Identify letter writers
- Select schools to apply to and identify possible advisers
- If needed, study for and take GREs

Early Fall 2023
- Ask letter writers
- Give them resume, personal statement & transcripts
- Finalize application materials and get feedback
- Submit applications

Late Fall of 2023
- Finalize application materials and get feedback
- Submit applications

Spring 2024
- Hear from schools
- Visit schools
- Make a decision!
A Typical Research Timeline

Year 1
- Foundational coursework to prepare for research.
- Join a lab with advisor & initial project.

Year 2
- Complete a majority of your coursework.
- Take qualifying exam.
- Identify research area.
- Potentially earn Master’s degree “along the way”.

Year 3
- Obtain preliminary results and publish papers.
- Formulate PhD research plan.
- Identify PhD committee.
- Begin writing proposal.

Year 4
- Complete and defend PhD proposal.
- Continue with research and publishing your results.
- Identify your future career path.

Years 5-6
- Continue to publish.
- Write & defend dissertation.
- Prepare and interview for next job.

see also https://cra.org/csgrad4us/#Guidance
Deciding Between Admissions Offers?

You should go on campus visits before making a decision.....
Campus Visits
(Winter/early Spring semester)

Go on Campus Visits!

- Many schools invite applicants for a campus visit (most after admission, some before admission decisions).
- Make use of it (often free) and meet people and see the department!
- If you get too many invitations, prioritize based on your factors. Ask your coach for guidance.
- If you can’t make a school’s scheduled “visit day”, ask if you can visit some other time.

Campus Visit Checklist

- Book your accommodations through the university (if possible)
- Set up meetings with faculty and grad student staff
- Ask to meet with Ph.D. students
- If you have special needs, meet with the appropriate campus office
- Inform yourself about the department before the visit
Meetings with Faculty in your Area(s) of Interest

- Explain your NSF Fellowship
  - fellowship support for 3 years
  - institution provides support for remaining 2-3 years
- What projects are in their current/near term agenda?
- Do they expect to be taking on new students?
- What is the departmental culture?
More questions to consider asking

• Do you consider yourself more of a ‘hands-on’ or ‘hands-off’ advisor?
• How is the lab structured? Are there research collaborations between students in your group?
• How often do you meet your students? Individually or in groups? What is typically discussed?
• What progress do you generally expect from a student in the course of a semester?
• What projects are in your current/near term agenda?
• What do you do when students are struggling?
• Do you expect to be taking on new students? What factors will affect whether or not you take a student?
• How do you integrate new students into the lab?
• Do you think our research interests are a good match?
• In general, do you tend to give your students projects/topics or have them select their own?
• Are there any specific courses that students in your lab take?
• What do your students do during summers?
• Are there other faculty in the department you think I’d be a good match for?
Meetings with Graduate Program Director and Support Staff

• What are the PhD requirements and expected timeline?

• What is the typical semester course load?

• What happens when a student has difficulty finding an advisor/funding?
Meetings with Graduate Students

Find out about the culture within the department and their labs

• Academic environment
• Support for interdisciplinary work
• Mentoring styles
• Professional development
• Career support (internships and initial positions)
• Social environment

Living situation

• Cost of living
• Quality of life
Revisit the Factors You Previously Considered

Collective View: Program, Department & Institution

Research foci
Faculty size
Reputation
Student life/academic culture
Financial support
Location

Individual View: Faculty & Labs

Student engagement/success
Publication Impact
Collaborative network
Industry engagement
Funding
Thank You’s and Regrets

• Send a note of appreciation to every person (faculty, staff or student) who notably interacted with you

• Ask faculty any outstanding questions
  • When will they expect to know if they are interested and able to accept you into their lab?
  • Provide feedback if you have made some firm decisions
    ● would definitely accept if you receive an offer
    ● would be very interested if you receive an offer
    ● enjoyed your visit and look forward to hearing from them
    ● enjoyed your visit, but have decided to accept another offer

• Always be honest!
  • It is a small world. You will see many of these people again and again

• Once you accept an offer, let other departments know asap
Finally, **Document Your Efforts**

- Each program you investigated or plan to investigate
  - Summarize the important information
    - pros and cons, size, …
- For each program, which faculty look like potential advisors
  - Summarize the important information
    - pros and cons, research areas, productivity
- For each potential advisor
  - Relevant info about their research areas, productivity, funding, etc.
- Status of your application
  - Accepted/Not accepted/Didn’t apply; visit plans
- Recommend a spreadsheet that you share with your coach
Review all application-related material we covered

You should have questions!
Talk to your coach, come to office hours.
Keep working on your application material
Coming up next ...

Panel 2: Q&A with Cohort 1 and 2 CSGrad4US Fellows
Thursday, October 19, 2023, 7pm

Panel 3: What I Wish I had Known Before Attending Graduate School
Thursday, November 2, 2023, 7pm