Applying to UMD CS

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UMD
High Level View

• We are a top CS department – and we want good grad students

• Our Goals
  – Identify applicants most likely to succeed here.
    • Our graduate program is focused on research.

• MS and PhD program
  – Most and highest percentage of admits are PhD
  – Also want to identify MS applicants with strong research potential.

• We have lots of applicants (2300 last year).
Components of Application

• Letters of Recommendation
• Resume/CV (highlight research)
• Statement of Goals
• Transcripts
• Copies of publications
• Test Scores
  • TOEFL for foreign students
  • GRE (Optional)
Checklist

- Three categories: Research, Academics, Personal.
- Three ratings: Outstanding, Competitive, Questionable.
- Most students will be competitive in most areas.
- We will take many students who are not outstanding in any area.
- We will not necessarily reject students who are Questionable in some area.
- Other qualities are also important (e.g., communication skills, non-research experience)
- Matchmaking – will the student find advisors in their areas of interest
Research Potential

• Most important but can be hard to assess.

• Sources of evidence
  – Publications
    • Quality. International venue? There are lots of places to publish poor work.
    • Student's role. Mentioned in letters? Author order.
      – Usually undergrad students play a secondary role. That’s fine, experience still good. But if student played a leading role, that’s quite impressive.
  – References
    • Strong statement that student would be a good researcher? (eg., “I’d take them as a student”)
      – Is letter writer a good researcher? Do they know other students that went to top US grad schools and compare applicant to them? Did they go to a top grad school?
  – Internship at top research lab or REU
  – Statement
    • Do they talk knowledgeably about their research? Do they explain their role
Academic Achievement

• Quality of school and GPA.
• Performance in hard courses.
• Trajectory.
• GREs. (Not as significant, but low quantitative scores can be a red flag)
• Letters may give more detail (“One of the five best students of 100s I’ve taught”)
• Statement may explain bad grades
  • E.g., health issues or taking care of family
Academic Preparation

• Are they prepared to take CS grad courses?
• If not, could they be ready with a couple of 400 level courses?
• Do they have other coursework that prepares them for their research?
  – If they want to do vision, graphics, ML, NA, do they have strong math background?
  – If they want to do comp bio, do they know some bio?
  – NLP, do they know linguistics?
Personality Traits

• Success in research depends a lot on drive, hard work, ambition, ability to work with others and to network, resilience, ....

• This is hard to judge from an application.

• We look for evidence of this in statement or letters
Interest in UMD

• Considerations
  – If they are from the area.
  – If they seem to have a specific research goal that strongly fits a faculty member.
  – Two-body problem.
MPI

• We have a joint program with the Max Planck Institutes.
  – https://www.cs.umd.edu/maryland-max-planck
Diversity

• We highly value diversity.
• Open to other diversity too (unusual countries, backgrounds).
<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
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<tbody>
<tr>
<td><strong>Start Coursework</strong></td>
<td><strong>Finish coursework</strong></td>
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<tr>
<td>Take “How to Conduct Great Research”</td>
<td>Get MS along the way (file paperwork; submit scholarly paper)</td>
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<tr>
<td><strong>Start Research</strong></td>
<td><strong>Continue working on Research</strong></td>
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<td>Try different projects and advisers</td>
<td>Try to select adviser and switch to RA full-time</td>
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<td><strong>Internships</strong></td>
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<td>Get professional profile established (Career4terps)</td>
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<td>Fall career fair</td>
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<td><strong>Year 3</strong></td>
<td><strong>Year 4-5</strong></td>
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<tr>
<td><strong>Research!</strong></td>
<td><strong>PhD Preliminary Exam</strong></td>
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<td>Research with faculty adviser</td>
<td>Propose your dissertation topic</td>
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<td>Attend conferences</td>
<td>Advanced to candidacy: Dedicate yourself to your research completely!</td>
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<td>Make connections with faculty, alum, etc.</td>
<td><strong>PhD Dissertation Defense</strong></td>
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<td>Plan for PhD proposal</td>
<td>Lining up interviews for post-graduation</td>
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Coursework (Years 1 & 2)

**Qualifying Courses** (i.e. grad-level CS, non-seminar):
6 in 4 different specialization areas
No more than 3 in any one area
You must obtain at least 4 A's and 2 B's (A includes A- and A+, B includes B- and B)

**Additional Courses:**
2 additional courses (your choosing) at grad level; can be outside CS

**Transferring Courses from Previous Master’s**
Limit of 3
To be “Qualifying” must be approved by field committee
Advising and Research

- Funding guaranteed through satisfactory progress via RA/TA; initially for two years
- 1st year is match-making
- Conduct pilot projects with faculty
- Attend lab meetings, talks, journal readings