Applying to UMD CS

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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 (eg., 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.
  - https://www.usnews.com/best-colleges
- 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).

Year 1	Year 2
Start Coursework Take “How to Conduct Great Research” **Start Research** Try different projects and advisers **Internships** Get professional profile established (Career4terps) Fall career fair	**Finish coursework** Get MS along the way (file paperwork; submit scholarly paper) **Continue working on Research** Try to select adviser and switch to RA full-time

Year 3	Year 4-5
Research! Research with faculty adviser Attend conferences Make connections with faculty, alum, etc. Plan for PhD proposal	**PhD Preliminary Exam** Propose your dissertation topic Advance to candidacy: Dedicate yourself to your research completely! **PhD Dissertation Defense** Lining up interviews for post-graduation

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