Tips on Getting into Grad School

Matt Welsh
mdw@eecs.harvard.edu
Why grad school?

- Think hard about why you might want to do a Ph.D.

- Ph.D. Can be a lot of fun, and open many doors.
  - Do exciting research
  - Learn new things

- But, it is not for everyone:
  - Very unstructured
  - Can be quite long (5+ years typical)
  - Work is often boring: Running experiments, publishing papers, taking classes
  - Lots of competition
  -Disconnected from reality
  - Low pay

- Ph.D. does not guarantee a better job or salary
Job market for Ph.Ds

THE PROBLEM, MIKE, IS NOT THAT YOU'RE OVERQUALIFIED FOR MOST OF THE JOBS OUT THERE...

THE PROBLEM IS THAT THE ONLY JOB YOU ARE QUALIFIED FOR IS ALREADY TAKEN... BY YOUR ADVISOR.

HE'S MUCH BETTER AT IT THAN YOU ARE.

AND HE'S NEVER GOING TO RETIRE.

BASICAELY, YOU WERE OUT OF A JOB BEFORE YOU STARTED.

GREAT. I HAVE A PH.D. IN OBsolescence.

www.phdcomics.com
Overview of the process

- Most grad school applications due in December/January
- Admissions committees meet in the early spring (March)
- Decisions mailed out late March-early April
  - Note: Different schools have different dates – no news is good news
Expectations

- What are admissions committees looking for?
Expectations

• What are admissions committees looking for?

• One thing only: **Talented students that will be able to do research.**

• In the end, **nothing else (really) matters.**
  - It does not matter if you have a 4.0 GPA, 99\textsuperscript{th} percentile on all GREs, etc.
  - GPA, GREs, etc. only used as **indicators** of potential – nothing more.
The Prof's Point of View

- Every member of the admissions committee is given a huge stack of folders to read. (Dozens to hundreds)

- Goal is to find the **very few** folders that stand out, and should be looked at more carefully.
  - This number will be quite small

- These folders are then pushed to the next level
  - Usually a committee meeting

- **ALL** folders must pass quality check in the final committee meeting.
The application

Application to grad school consists of several parts, which come from different places.

1) General information about yourself: application form

2) Transcript and grade point average (GPA)

3) GRE scores

4) Letters of recommendation (usually three required)

5) Personal statement

6) Anything else you mail in as part of your app
   - We'll talk about this later
Basic evaluation process

● Ideally, we want to see research experience.

● But, not many undergrads have research experience. How to evaluate?
  ● Grades and GRE scores only a (weak) indication of potential

● Grades: Like to see 3.5 GPA or higher (87.5%)

● GRE: Like to see 90\textsuperscript{th} percentile or higher
  ● Many, many applicants have 3.8+ GPA and 95\textsuperscript{th}+ GREs

● These are not hard cutoffs!

● Letters count a lot – probably most important thing.
Your recommendation letters

• These matter a LOT. More than anything else.

• Best recommendation letters have the following properties:
  • From someone (reasonably) well known.
  • A professor in academia – letters from industry count a lot less.
  • Have something **substantial** to say.
    • *(Not just, “So-and-so made an A in my class.”)*
  • Say strong things about your **potential as a graduate student**

• How to get these letters?
  • 1) Write them yourself? *(Don't do this!)*
  • 2) Ask 3 profs to write a letter and just hope for the best?
  • 3) Establish a **relationship** with some profs who can say good things about you when it's time to write a letter.
Establishing relationships

- Grad schools want students who can do research. The best way to demonstrate this is ... well, **do some research.**

- Need to get started early: research takes a while to get rolling

- Goal is to get a good recommendation letter when you graduate!
  - It is a lot less important whether your research is a “success”

- You do **not** need to publish a paper as an undergrad.
  - Publishing a paper can help ... but only if it is a good paper!
Undergrad research

Hey, look, a professor is looking for undergrads to work in his lab...

CH-CHING! $$ $$

"Exciting undergrad research opportunities! Earn valuable experience while contributing to science!"

That sounds great! Let's do it!

Allright, undergrads. Prof. Lee wants the floor cleaned. Get to it.

I think the word "exciting" means something different to professors...

www.phdcomics.com
Priming your letter writers

• To write a good letter, a prof needs to know a lot about you

• I strongly recommend meeting with your letter writers before asking them to write a letter.
  • If they are on your team, they will do a better job when they actually write it.

• You also need to get a read on your chances of a good letter.
  • Need to ask directly, “Can you write a strong letter for me?”

• Keep in mind that most profs are overloaded with letters to write.
  • Give them a packet with everything they need. Don't ask them to hunt it down.
The personal statement

• I tend to ignore these.

• But, some people read these carefully! So need to do a decent job.

• Non-goals of the personal statement:
  • NOT to tell your life story
  • NOT to explain why you want to be a Ph.D. Student
  • NOT to kiss up to the faculty at the school you are applying to
  • NOT to explain how you are going to solve the world's problems

• Better set of goals:
  • Outline a single research problem that interests you
  • Give background: show you know the area
  • Talk about how you would approach solving the problem.
    • *Think of this as a “mini project proposal”*
  • You will not be held to this project, of course.
Other materials

• Generally speaking, anything you send in as part of your application will get added to the folder, somehow.

• Although not requested, I usually like to see in a folder:
  • A resume
  • Any papers that the student has written or published

• Don't abuse this. Send additional materials only if you have them.

• Don't send a photograph (unless requested by the school)
Pitfalls to avoid

- Sappy personal statement
- Any typos or grammatical mistakes *anywhere* in the application
- Weak recommendation letters
  - Prime your letter writers!
- An unexplained black mark on your record.
- Spamming professors
  - (We all get way too many emails.)