

Financially Supporting your Graduate Education

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Let's start with a few questions

- ① MS or PhD student?
- ② Are you happy with your current funding situation?
- ③ If not, then what would be your ideal funding scenario?



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**Everyone requires financial
support**

Graduate Students (YOU) need financial support

- Living expenses
- Professional travel
- Equipment



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Professors (US) require financial support

- Personnel (Undergrads, Grads, Postdocs)
- Professional travel
- Equipment
- Living expenses (e.g., summer salary)



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Industry also require funding

- Raise funds to support innovation
 - creation can be expensive without guarantee of return-on-investment



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Financial support is the freedom to pursue your personal goals

- Embrace the challenge!
- Embrace the opportunity!



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Types of graduate funding

Traditional funding

- Teaching assistantship (TA)
- Research assistantship (RA)
- Fellowships and scholarships



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Alternative funding

- On or off campus jobs
- Travel grants
- Educational loans
- Friends and relatives
- Personal savings
- Inheritance/Lottery



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Funding: Long and short term

- Masters (short road)
 - 1 – 2.5 years
 - Harder to obtain funding since many funding opportunities are only for PhD students
- PhD (loooonnnngggger road)
 - 4 – 7 years
 - May have different types of funding during different phases
 - Can be stressful if funding source is uncertain from year to year or semester to semester



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Teaching assistantship (TA)

■ Pros

- Gain teaching experience
- Best way to learn is to teach
- Practice presentation skills
- Not tied to a research group / faculty advisor

■ Cons

- Must do research in addition to teaching obligations
- May be more than a teaching assistant
- Not tied to a research group / faculty advisor



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Research assistantship (RA)

- Pros

- Getting paid to do research that hopefully is related to your Masters/PhD degree
- Tied to a research group / faculty advisor

- Cons

- Tied to a research group / faculty advisor

- It is OKAY to switch groups and advisors!
But be careful and don't wait too long!



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Finding an RA

- Get involved!
- Explore before you commit
 - How do you feel after you leave his/her office? Inspired? Crappy? Do not ignore these feelings!
- Talk to professors early
 - Find out about their research
 - Figure out what of their research interests you
 - Ask for recommendations on papers to read
 - Propose research ideas
- Attend research meetings



Do I need a “rich” advisor?

- Availability of RA should not be the main reason to join a research group

BUT

- Be realistic regarding an advisor’s ability to support you through the program



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Finding external funding

- Ask your advisor
 - Fellowships / scholarships in your area?
 - Fellowships / scholarships at your university?
- Ask your peers
- Search on your own !
 - Your university website for sources of internal funding
 - Scholarship websites
 - Companies
 - Government agencies



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A small sample of fellowships and scholarships

Name	Years funded	Women Only	Minorities Only	US Citizen only	Deadline
Microsoft	3				Oct
Hertz	5				Oct
IBM	3				Oct
NSF	3			Yes	Nov
NPSC	2-6			Yes	Nov
American Association of University Women	1	Yes			Nov
Google Anita Borg	1	Yes			Jan
AT&T	3	Yes	Yes		Jan
Dept. Homeland Security (DHS)	3			Yes	Jan
NDSEG	3			Yes	Jan
DOE	4			Yes	Jan
SMART	2-3			Yes	Jan
NASA-GSRP	3			Yes	Feb
Women in Defense	1	Yes		Yes	July

Don't be afraid to apply!

- Typical reactions from female students.
 - “I’ll never get awarded this fellowship.”
 - “I’m not qualified.”
- The worst thing that can happen is that you will not get the fellowship. If that happens, you will learn from your experience and do better next time. 😊



Don't be afraid to apply! (2)

- If you are interested and meet the specified (not imagined) qualifications, then apply.
- Once you have decided to apply, go full steam ahead.
 - Erase all thoughts of not getting the fellowship.
- Be inspired by the opportunity.



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Failure leads to success

I've missed more than 9000 shots in my career. I've lost almost 300 games. 26 times, I've been trusted to take the game winning shot and missed. I've failed over and over and over again in my life. And that is why I succeed.

- Michael Jordan



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Failure leads to success

- Ask your professors ...
 - How many of their grant proposals have been rejected? How many did they revise and resubmit?
 - How many of their conf/journal papers have been rejected? How many did they revise and resubmit?
 - How many of their brilliant ideas didn't pan out?
 - Despite the numerous possibilities for rejection, why do they still love their job?
- One acceptance outweighs a thousand rejections.



Inside a fellowship application

- General form
- Transcripts and test scores
- Essays
 - Personal history / personal statement
 - Research description: Completed work and outcomes (software / hardware prototypes, publications, awards) and current / future work
- Letters of reference



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Preparing essays

- Ask fellow graduate students for examples
- Steps for a good essay
 - Start early
 - Revise, revise, revise
 - Be specific and concrete!
 - Follow the “rules” on format and length



Preparing essays (2)

- Catch the reader's attention immediately
 - Get personal!
 - Your application is not a technical (impersonal) paper.
 - Customize your essay to reflect your uniqueness.
 - No boilerplate information should be in your essay.
- After writing your essays, you should have learned something new about yourself.



Getting references

- Don't be afraid to ask
- Ask early
- Help your references write a strong letter
 - Tell them the goals of the grant you are applying for
 - Give them a copy of your personal statement and your research description
 - Make sure your web site is up-to-date
 - Share your enthusiasm with them
- Remind your references of application deadlines — many faculty need nagged!



Obtaining conference funding

- Many conferences have funding for students
 - “Free” conference registration
 - Travel support
- Look for external funding sources (e.g., travel grants through IEEE and ACM)
- Be a conference student volunteer (help with registration, AV, ...)



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Surviving funding lapses

- Be frugal!
- Be flexible
- Ask around
- TA in your department or other departments
- Consider internships
- Apply for part-time jobs (grader)
- Apply for a loan
- **Most importantly ... Do not panic!**



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Once you obtain funding

- Celebrate!
- Promptly let the organization/person know your decision to accept or not accept.
- If you accept, you have made a commitment to that organization/person.
- If some life event requires you to change your decision, let the appropriate people know ASAP!
 - It's simple courtesy.
 - The organization can find someone else who needs the funding.



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You are amazing! 😊

- There are funding opportunities for EVERY person in this room!
- Be persistent in seeking the funding that best suits your situation.
- Never talk yourself out of an opportunity.
- Never let funding challenges stop you from pursuing your dreams.



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