Research Opportunities

Unicode Research Group

Disclaimer

- This presentation was created with the intention of sharing our experience with you guys.

- Our advice comes from personal experiences and *may* not be best course of action for everyone

- Please do not follow what we say *blindly*, do what best suits your goals.

- Also, please don't sue us :)

Overview

- Importance of Research Internships

- Research Programs (International + National)

- Cold Emailing

- Research Startups/Open Communities

- Research Venues

- Extra Resources

- Case Study: Swapneel Mehta

- Q&A

Research Internship

What are they?

- Work under/with a professor/researcher on some cool unexplored topic

- Doing things from scratch

- Determination is very important as success is not guaranteed

- Learn how to read papers and prototype/reproduce them

- Very valuable if planning to pursue research as a career

FYI this would also help you for your MS applications

Research Opportunities

Application Filling

- Register your account

- Add Education Details

- Upload Documents - Cover letter, Resume/CV, Transcripts, Two letters of Referral, Multiple Essay type answers

- Draft essays explaining your interests

- Explain past experience and relevant projects

"This isn't something you can do the night before"

TLDR; Plan well in advance, Murphy's Law exists

International

- [Mitacs Globalink](#)

- [Summer@EPFL](#)

- [CERN OpenLab](#)

- [Max Planck Summer Internship](#)

- [USC Viterbi IUSSTF Program](#)

- [CMU RISS](#)

- [Summer at ETH Zurich](#)

FYI many more can be found [here](#) . . .

National

- [SRIP (IIT Gandhinagar)](#)
- [Eklavya (IIT Bombay)](#)
- [Midas(IIIT Delhi)](#)
- [SRFP (IAS Fellowship)](#)

- [IBM Research India](#)
- [Surge (IIT Kanpur)](#)
- [Spark (IIT Roorkee)](#)
- [IISc Bangalore](#)

Cold Emailing

Writing to Professors directly (a.k.a Cold Emailing)

- Motivation

  - Looking for some opportunity

  - Connect with researchers/professors

    - Questions about research papers/talks

- Usually **<5%** response rate so patience is key

- Emails need to be succinct, eloquent (~~avoid generic mails~~)

- Be polite

TLDR; such effort, (but) much amaze

Examples

➢ ~~Hello, please take a look at my SOP and tell me what you think.~~

➢ ~~Hello please help me apply to Berkeley.~~

➢ *Hello, I'm X. I have <u>X questions (listed below) which I think you might be able to answer because of X</u>. If you prefer to answer them over email that'd be appreciated and I'm also happy to discuss over video chat if that's more convenient for you.*

➢ *Hello I am X. I recently <u>read your work X</u> and was thinking about pursuing the following. If you have <u>any feedback on whether this project makes sense, tips from your prior work on likely difficulties</u> I might encounter, or would be willing to talk to me a bit about it, I'd appreciate that!*

FYI more info can be found [here](#) . . .

Template

Dear X,

I hope you are doing well. I am X, a graduate with Bachelors in X from X university looking for a opportunity in the X field. I went through your publications and have read X paper. I found that your research and my interests overlap quite well.

<describe the paper briefly and questions if you have any>

<describe your background briefly and how it relates to above work>

Please check my resume and supporting materials attached to this email. You may also visit my website for details.

Sincerely,
X

FYI this is not the rule of thumb so it is okay to get the gist of it

Research Startups/Open Communities

Research Startups

- Rare and difficult, but incredibly rewarding

- Applied research

- Examples

  - [NeuralSpace](#)

  - [Alan AI](#)

  - [Haptik](#)

  - . . .

Open Communities

- Collaborate with strangers

- Communication skills are very important

- Structured around social interactions

- Examples

  - [OffNote Labs](#)

  - [Landskape AI](#)

  - [Transmute AI](#)

  - [FOR.ai](#)

  - . . .

FYI you can more info about positions available [here](#) . . .

Research Venues

How to find the right venue?

- Publishing papers at the actual A* conference might be very hard

    - Approx. 10 - 25% acceptance

- Workshops of top venues might be achievable and are good then mediocre conferences

- It is okay to have first few crappy research papers

    - Initially gets you started

TLDR; It is important to realize early and avoid continuing the same mistake for a long time

Some popular venues:

- CV - CVPR, ECCV, ICCV

- [NLP](#) - ACM, EMNLP, NAACL, COLING, CoNLL

- ML - ICML, ICLR, NeurIPS, IJCAI, AAAI

- [ACL Rolling Reviews](#)

- [arXiv preprint](#)

- Journals - Elsevier, Springer, Taylor & Francis

FYI you can find a more extensive list [here](#) …

Extra Resources

Supplementary Resources

- [Curated list of research advice by Smitha Milli](#)

- [Guide to Awesome Research Proposals](#)

- [Guide to Awesome Machine Learning Projects](#)

- [How to Read a Paper by S Keshav](#)

- [How to Read a Technical Paper by Jason Eisner](#)

- [Tips for Writing Technical Papers by Jennifer Widom](#)

- [How to Write a Great Research Paper by Simon Peyton Jones (MSR)](#)

- [Getting Started with Applied ML Research by Elvis Saravia](#)

Case Study: Swapneel Mehta

Swapneel Mehta

- Ph.D. student at NYU Center for Data Science (Current)

- MSR Intern (IIT Bombay)

- CERN Openlab Intern & Technical Student

- Stanford Summer Research

- IAS Summer Scholar

    . . .

Q&A

Thank you!