

# Pursuing Research As a Cummins Undergrad

Michelle Davies Thalakottur  
30th June 2020

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- I will discuss privilege wherever relevant and aim to be as transparent as I can.

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- Share my experience. There weren't any seniors who publicly talked about research to me and I wish there had been.
- Hope that you will carry this forward.

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- BE Project is also a Research Project sponsored by IIT Bombay  
Topic: Formalization of a Programming Language  
Domain: PL, Compilers

# Part I

## What is Research?

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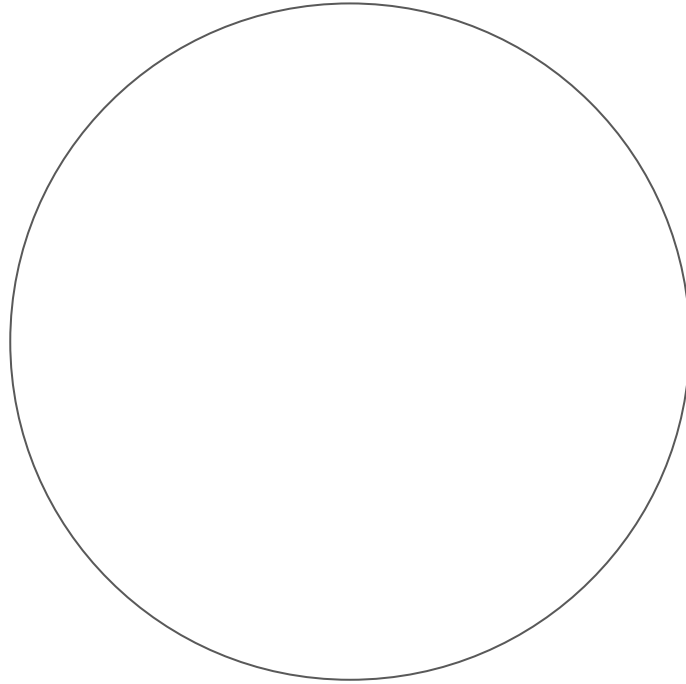


Illustration courtesy of Matt Might's [Illustrated Guide to a Ph.D.](#)

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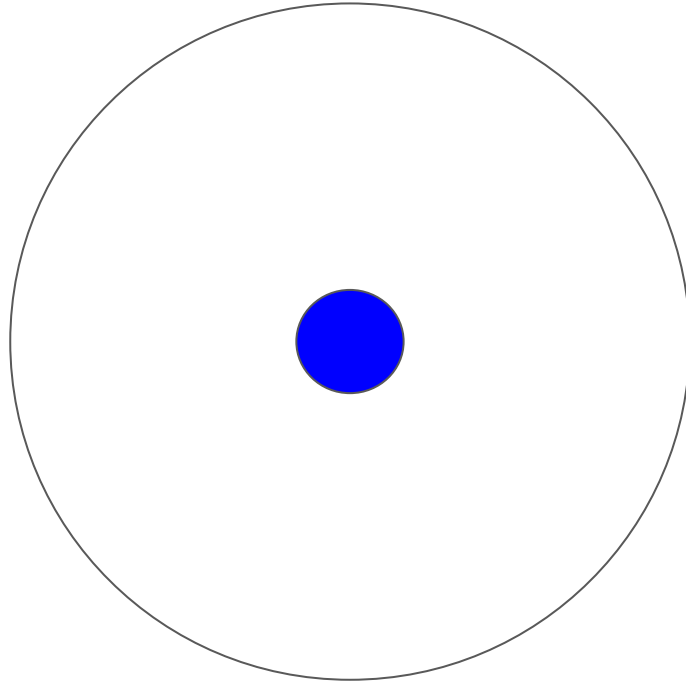


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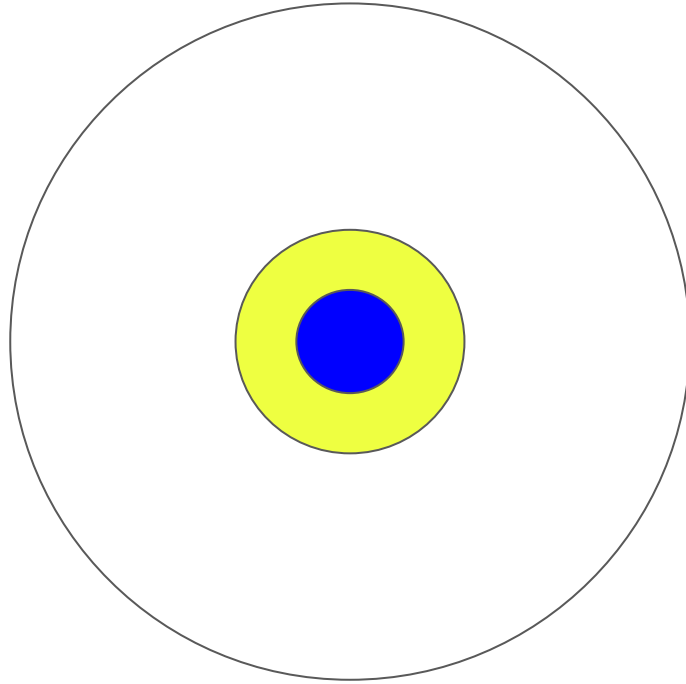


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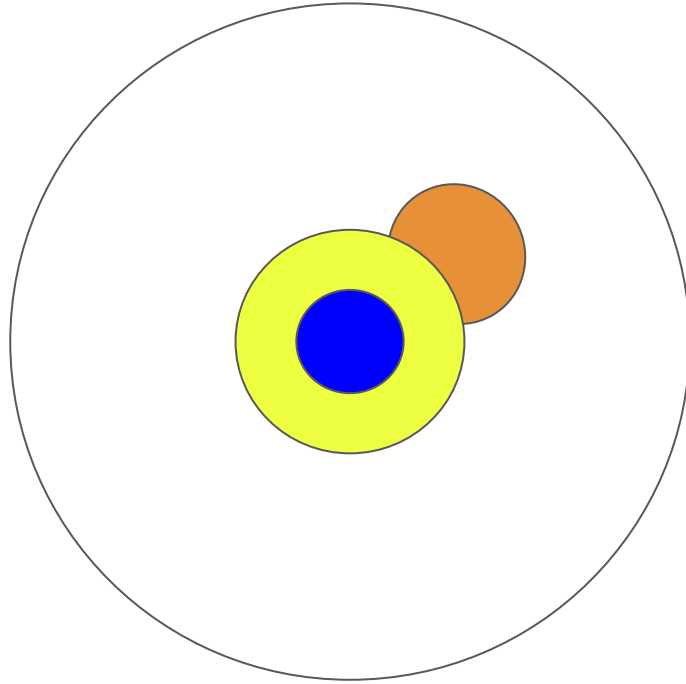


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  - IBM receives record 9,262 US patents in 2019 with India being the 2nd-highest contributor.
  - Companies like Google, Microsoft, IBM, HP Labs, etc have research labs all around the world, including in India.

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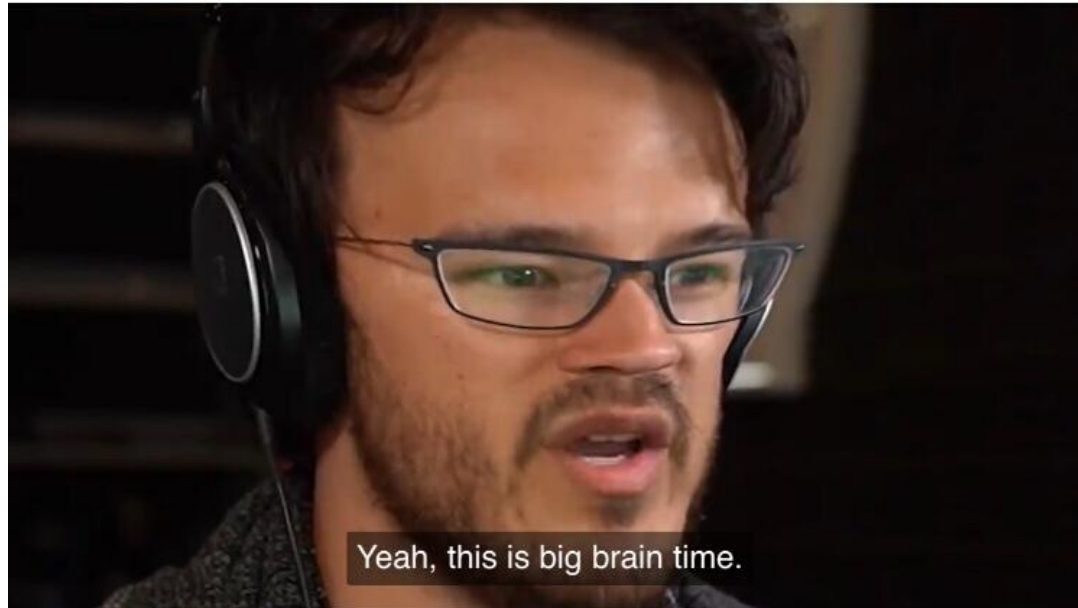
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- Personally, it is fun, intellectually stimulating and enriching. You might end up making a career out of it.

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**You are what you tell yourself. Don't hold yourself back.**

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Enter: Research internships! A good way for you to try out research.

## Part II

How do you 'do' a Research Internship

A. Before applying

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Either can be a field that interests you. If your interest is due to how impressive a field sounds, realise that that isn't sustainable.

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Learn how to learn by yourself.

## B. Applying



# Common advice

- Cold email professors! They're dying to get students involved in research.
- Keep up a good CGPA and professors will ask you to work for them.
- Getting a research internship is a meritocracy.

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*\*Ask your seniors to recommend professors to work with and refer you (if they can).*

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P.S. You might need LORs from them in the future and if you speak to them, they can write more about you than a DWIC LOR.

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[How to read a paper](#)



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- Once they respond positively, they will conduct a short interview or ask you to review some material till they can assess your strengths and only then will they assign you to a project.

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- Ask about the specifics of the work you would doing. Establish what you expect very clearly. Be reasonable.

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- Be prepared to be rejected a LOT.



# Research programs

- IIT's have research programs that you can apply to. Look online for more program web-pages. Most applications begin in January.
- IISc's [SRFP](#) program and [INAE](#)'s summer program. Some applications end in November.
- Foreign internships:

The exorbitant fees may not be worth it.

Charpak, CERN, TIFR, etc. *I had sent an email about this. Please refer to it for more links and information.*

Good luck!

## C. After Applying & During the internship

Impact, Impact, Impact

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# Part III

## My experience, briefly



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- My parents support and encourage my decisions. That can be rare, quite unfortunately.

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- Choosing to go for opportunities where you aren't paid is also weird.



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- I love learning. It fills me with a lot of joy to learn and think about these research problems, which is why I love it so much and think it's this much fun.
- If you're like me, you might just find it to be as fulfilling as I do.

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*If it seems really easy, you might not be getting the whole story.*

# AMA: Ask me Anything!

You can read about the specifics  
of my internship at IIT Patna [here](#)

*Connect with me*

[LinkedIn](#)

Shoot me an email at

[michelle.thalakottur@cumminscollege.in](mailto:michelle.thalakottur@cumminscollege.in)