

Current affiliation:

Branch of study during undergrad:

Webpage/CV link (for others to view your career trajectory):

1. What was your first research experience? How did you get that opportunity? When did you get it (undergrad, graduate, when working, etc.)?

My first research experience was within my alma mater – Delhi Technological University (DTU) itself, in my sophomore year (2nd year). It was a joint collaboration between a professor at our University and a researcher at DRDO. Got to know about it as an announcement in one of my course classes. From there, I had to showcase some analysis and image processing skills on a dataset. From there on, I worked on the project for 2 years. Whilst I was part of this research project, I also applied for research internships post my junior year (3rd year) of college. Lots of rejections from lots of programs, but I got an acceptance from the RIPS program at UCLA which turned out to be a phenomenal experience for my research career.

2. Did you have any role models in research when you started? Was there anything specific (e.g, a book, essay, lecture, or video) that influenced you or you would recommend to someone starting out and exploring research as a career?

I was influenced by lots of big name researchers back in the day. I started a deep learning club named after Geoffery Hinton at DTU. Andrew Ng's course was the first to get me caught up with machine learning, but Nando De Freitas' course on Machine Learning (available on YouTube) was the most influential. Being in India, while all this aspiring research was happening on the other side of the world definitely kept me from having a mentor during my undergrad.

To someone who is starting out and exploring research as a career, it would be the most difficult, but the most fruitful to have a one-to-one relationship with a mentor. One of the best early mentors I found was in Dr. Susana Serna who was the person in-charge of the RIPS program. Your mentor does not have to be a professor (although it's very beneficial). This mentor could be a senior or graduate student in your current undergraduate school, your relative, or someone you found over Github. Keep reaching out, keep connecting – collaboration and social skills are an essential part of any research work.

3. What are some opportunities that a life outside of research would probably not have given you? Conversely, are there things that you feel you are missing out on having committed to a research-focused career?

It's not a yes or no zone. You can always shape your work to your liking. I have seen people doing everything from social and administrative work to start-ups to professional weightlifting while doing their PhD work. I think knowing how to get to such opportunities where you can enjoy the freedom and ownership of your research is the tougher thing to do.

But to answer the question, doing research in a PhD program trains you to be methodological problem solver. I know that not many careers allow you to learn and grow in that manner. On the other hand, given the amount of commitment it takes, am currently

missing out on being part of current geopolitical issues – anything related to conversation, climate change, animal testing policy etc.

4. How did you figure out what field you wanted to specialize in? Has this changed over the years? How did you navigate the explore-exploit tradeoff as you navigate the question of discovering your interests?

I'll answer this in parts. My computer science research lead me to deep learning, which was the hot topic in research at the time. When you talk deep learning, you eventually fall into conversations around artificial vs human intelligence. I was curious to explore the pitfalls of the core deep learning algorithm – backpropagation. That is what lead me to neuroscience. I started doing online courses in psychology, behavioral neuroscience etc. and found out how neuroscience has influenced computer science over the years (vice versa is also true, btw). Given this impetus, I applied to graduate school in neuroscience, and played it from there.

My interest has changed over the years, indeed. I am moving myself more towards climate policy and research for several reasons. The biggest one of them is the urgency of the situation which I think needs more intellectual and pragmatic minds in minds.

You CAN make the best of the situation you are in. You CAN be better at whatever you want from where you currently are. Everyone works on their own timeline, and I would recommend whoever is reading to do what they want, while carefully managing the circumstances you're at. And if the circumstances withhold you, then figure out how you can best change them.

5. How would you recommend a beginner find a good project/problem, and navigate the abundance of information, literature, and hype available today?

A personal mentor – a professor, friend, senior in college, family, someone you did an online course with, is a great place to seek advice. Also take advice from many people. Personal connections are your biggest asset, imo.

6. Have you experienced impostor syndrome? If yes, how did you deal with it?

I have, and I'd just say that the only person you're competing against is yourself. Learn, err and keep going. Everyone at their own pace.

7. Have you experienced any form of discrimination in your work? If yes, how did you handle it?

I have personally not. If you did, I hope my words validate your experience, and you know that I sympathize for what happened. I sadly also know people who have been harassed in the workplace, so I am aware of the trauma it can lead to. Please make sure you share your experience in a safe space, and choose whatever is the best for you. There is no one answer.

8. In your experience, what are some prominent qualities of researchers you have worked with? Are there any stereotypes that don't hold? What should students look for in prospective mentors?

Every researcher is a little bit different, in all aspects. But there's definitely a mentor better than the other for your personality. You want to work with someone you feel comfortable with. Few things you would want to look for depending on where you are on the spectrum yourself:

1. Openness towards conversations, including personal and work.
2. Flexibility with scheduling, or workstyle ethics. Night owl, freestyle, 9-5, no weekend work etc.
3. The amount of ownership you'll have in deciding your research trajectory.
4. The amount of hands-on guidance. Exploratory v/s more hand-fed.
5. Skills that you're trying to learn in future.
6. And many more...

9. As a part of your research pursuits, have you had experiences that you would classify as "failures", and if yes, what was your response to said situation(s)?

Science is about making mistakes, but try not to repeat them. Make new mistakes, instead.

10. What does impact mean to you in the context of research? How important is it to you that your research moves the needle on something in the real world in the foreseeable future? How much should someone starting out worry about making an impact?

Not much. As a new PhD/ Master's student or even a young investigator, try to ensure that the question you're trying to interrogate is concise, valuable to the community and is motivating to you. Impact will follow as you mature in the field.

11. Is it ever too early or too late to start a career in research?

No one answer. It is very circumstantial. My personal opinion is no, there's not. I know someone who has two kids, someone is 1.5x my age (25 x 1.5), has someone one PhD already. Everyone comes into research from different experiences, and all are (or should be) welcome.

12. Did you face a decision to consider an advanced degree from India vs. outside? How did you make that decision?

My decision was straightforward because I had the privilege of having no familial responsibilities or financial obligations back home. I could earn my own money, work in better research facilities, and explore a new country and new people. All of which definitely shifted the scale heavily for me to do my PhD in the US.

13. Are there any "sacrifices" (broadly interpreted; could be personal or professional) you've made which you think were specific to the demands of your career in research?

I have made “sacrifices” of time, I guess, but the eventual and sometimes long-awaited realization of how far I have come are always rewarding. It took me many iterations of failures in my personal and professional relationships, errors in codes, and a lot of rejections to get to the place where I am. Again, I had the privilege of never having to make a sacrificial choice of staying and supporting my family back in India.

14. Any other message to those starting off their research journeys (2nd, 3rd year undergraduate students)?

All the best! I wish you only success. Don't let the worry about making mistakes stop you from doing what you want, but first, make sure you learn from them, and second, make sure you mend the relationships with people you affected in the process.