

It all started on a Monday morning, with a friend in the Civil-Engineering Industry chanting to me an important maxim “Nowadays, securing an industry job for PhDs without any practical experience is quite challenging. So apart from all the numerous lab work you do, you should consider accomplishing at least one relevant internship during your course”

No matter how easy it might sound for an undergrad to go to the career fair and approach any industry for a co-op or an internship, it was almost impossible for a PhD candidate like me. After spending 9 years in academia, including 6 years of laboratory research, getting an internship in industry was almost a myth to me. I attended the 2018 Spring Career Fair, spoke with several companies requesting a chance, and even convinced a few upper management corporate officials. Not to my surprise, I was avoided by saying “We try not to hire PhDs as they have spent quite a bit of time in the academic setting and their thought processes wouldn’t be of much benefit to our company”. Some higher officials of UT’s corporate partners told me “The co-op and the internship programs are designed for undergraduate students. I don’t see how you being a PhD candidate in your specific field can benefit our company”

Well, I won’t lie. I was crest-fallen. Even though I knew my capabilities and how I could contribute to the industry, I started questioning myself. Did I make the right choice in my career? Was it right going for a PhD after my masters? I do want to become a professor, but before that I want to go out in industry and see how it actually works. I have been seeing academia for a while but I am curious about seeing how industry impacts our society, how are things dealt with there, how is it different from academia, etc... But here I was, sitting in my laboratory cubicle with hundreds of rejection emails flooding my inbox. I was convinced now - I am not successful in securing an internship, how will I even end up with a full-time job.

I was about to accept defeat until I attended a symposium arranged by The Center for Disruptive Musculoskeletal Innovations (CDMI) in March 2018 by Professor Vijay Goel. Along with other companies, National Science Foundation (NSF) was one of the partners of CDMI and they had a presentation on “NSF Industry University Cooperative Research Centers (IUCRC) Program Perspectives.” Dr. Andre Marshall, NSF Program Director IUCRC was the speaker and in one of his presentation slides, he spoke about a program where NSF is ready to fund PhD candidates to go for an industry internship. All they have to do is find the most relevant industry and make a strong application to NSF. As soon as the presentation ended, I saw my PhD adviser – Prof. Sarit B Bhaduri eagerly ask him about the procedure and possibilities of getting such a funding. My adviser knew how aggressively I was looking for an internship and how this would perfectly help me. Answering his question, Dr. Marshall said “You have to submit a proposal for this, but, let me tell you, we get thousands of applications from all over the nation and we select around 75 applicants in order to give this funding.” I knew this was again next to impossible – being in that 75 out of thousands in a year. However, I walked up to Dr. Marshall and asked him about the details of the program. He opened his laptop and showed me the website with all the details- <https://www.nsf.gov/pubs/2017/nsf17091/nsf17091.jsp> . The program is called “Non-Academic Research Internships for Graduate Students (INTERN)”. I minutely went through all the requirements needed to submit the proposal for the supplemental funding. Flooded with uncertainty, I shook it off and began forming the application for the funding. With strong support

from my adviser, great help and collaboration from Orchid Orthopedics Solutions, we as a team were successful in submitting the application.

This was the easy part. The wait was the hardest part. After several follow-ups by my adviser with NSF and thousands of years of waiting, we were awarded the grant at the end of July. I became the first UT Engineering student, specifically PhD candidate to be awarded this supplemental funding for my internship. I became one of those 75 students in the whole nation to secure this award. Now, I was offered the prestigious position – “Graduate Intern Research & Development (R&D)” in Orchid Orthopedic Solutions, Farmington Hills, Michigan. Over there, I will be doing something very similar to my PhD dissertation as their R&D work is very much similar to the work I was doing here at UT. I will be developing real-time orthopedic implants for the healthcare industry as opposed to the prototypes I was presently working with. I am sure that I can contribute significantly, making UT proud and directly benefiting society with my expertise.

We as PhDs are not just meant to be professors or stay in academia in the conventional way. Many of us want to go into industry and pursue a career there. I have worked with orthopedic implant prototypes in UT’s academic lab and made significant contributions in research but I was curious to go to an industry and work with actual implants and see how my work could directly contribute to the well-being of society. I was eager to make that contribution because I was keen to apply my academic knowledge in a practical setting. No one gave me that chance until NSF, one of America’s biggest funding agencies, realized the potential of PhDs for the industry. I did a significant amount of my education in India, but America has given me a significant lot in a short span of time, and UT is the prime element in my success story. It is like the family members at home who have given me that shelter, that security and most importantly that platform for exploring these opportunities.

I am indebted to my PhD adviser, Dr. Sarit B Bhaduri, without whom I would be an orphan in my PhD career in this foreign country. I am grateful to Prof. Vijay Goel, who is responsible for this opportunity, as he is the one to have NSF speak at the CDMI symposium from where it all started. And I am grateful to UT for being the great protective family who always had their hand over my head. Thank you.