

*“A man with the power of will could make himself anything he wished no matter what the circumstances. –Willis Carrier”*

Science is such a field which has no boundaries and limitations engraved upon it. There is no distinction in age or gender. Anyone with new ideas and skills are welcome to try their best and contribute something worthwhile to the society. When it comes to engineering, one has to conglomerate all their skills and knowledge to deliver some products to the society. And mechanical engineering is one such branch that gives you the freedom to make this dream come true. From a small gear to a large aircraft, from air-conditioning to medical sciences, everything that has brought about an industrial revolution to mankind has in some way always linked its way to mechanical sciences. This is what has driven my passion towards moulding my career in engineering.

Coming to my under-graduation degree, I have obtained my Bachelor of Technology degree in Mechanical Engineering from Veer Surendra Sai University of Technology, Burla (formerly UCE, Burla). During my four years of coursework, I have come to understand the application of mechanical sciences in the real world which not only deals with manufacturing but also understanding the world of design and thermal sciences. Taking into account the interests I developed, I ended up taking a project in design field that dealt with monitoring the vibrations developed due to cracks in a railway track using PVDF. This helped me to augment my knowledge in the field of mathematics and computer sciences. Being a part of mechanical society, it exposed me to both theoretical as well as experimental knowledge. Other than enhancing the technical adroitness, I have been part of several non-technical activities as well where I have been responsible for managing events. I completed my vocational training at SAIL, India (Rourkela Steel Plant). During these years, I developed an interest in thermal sciences which stirred me up to pursue higher studies in this field.

After completing my under-graduation, I went on to pursue higher studies and did my masters' in Thermal Science and Engineering from Indian Institute of Technology (IIT), Kharagpur where I was bestowed with ample opportunities to learn more about the field I wanted to devote myself to. Here I was introduced to the world of refrigeration and air-conditioning that fascinated me to a brink. I was in an awe understanding how the world cannot survive without its application and how has this become an integral part of our daily life. The novel technologies developed over the years never made me leave the curiosity to learn more. Nevertheless, I completed my thesis in combustion and moved on to DRDL, Hyderabad, India to continue my research work as a Junior Research Fellow under the Ministry of Defence, Government of India. My work here mostly comprised of internal flow simulations and thermal analysis using computational fluid dynamics. Along with this, I became adept in using commercial CFD softwares. I have also been able to expand my research area in chemical kinetics. With all these challenges and tasks, I was able to broaden my scope of research and it made me realize my passion to work in the field of thermal sciences. My interest in refrigeration and air-conditioning had never withered out, but instead kept the flame in my heart burning during my tenure here at DRDL that always kept me close to the work area I was interested in.

I wish to deepen my knowledge further in the field of refrigeration and air-conditioning if given an opportunity to be part of your prestigious institution and programme. It would be an incredible journey on my part to be able to work with such renowned professors. This will surely help me to improve myself both technically as well as personally. This will provide me with vibrant opportunities and help me to strive towards my goal overcoming all the perils.

As a PhD aspirant, I believe the opportunity being provided to me by IIT Kharagpur and University of Manchester will help me to embark upon a new journey in my career and help me to excel my knowledge and assist me to strive myself beyond the horizons which will eventually help me to contribute significantly to the society. I am confident I will prove to be an asset to your research group and the institute where we could mutually exchange our ideas and thoughts and grow together for a better world.