

Statement of Purpose

Vijay Tara

The seeds of my immersive interest in machines and their working were perhaps sown in my father's manufacturing unit, where I spent hours of my childhood engrossed in watching the byplay of cogs and wheels in the huge machines. As an inquisitive child, I was intrigued about the mechanism behind their working and as an engineering graduate, I am still in awe of the incredible power and possibilities that lie within this challenging domain. My career goals encompass imbibing the spirit of research and innovation to work at the forefront of technology, hence the decision to pursue a Masters in Mechanical Engineering from _____.

The choice of science stream in high school was a natural choice for me, given my numerical aptitude and logical bent of mind. Academic orientation and a penchant for excellence ensured that I secured a perfect 10 CGPA in Class X followed by a high 94.8% in class XII which I completed from Delhi Public School, Vasant Kunj. I embarked on the journey to explore the wonderful world of machines with my undergraduate study in Mechanical and Automotive engineering at the prestigious Delhi Technological Institute. While cracking the formidable JEE Entrance to secure admission in DTU wasn't easy, my under graduation has been an equally immersive and thrilling adventure in engineering. DTU provided me a platform to delve deep into academics and work on exciting projects. While the first year laid a foundation of basic understanding of different engineering fields, the later years saw me hone my skills in applied Turbo machines, Engineering Mathematics, thermodynamics, fluid mechanics, solid mechanics, control systems, engineering and manufacturing processes. I was finally able to unravel the mystery of mechanical systems where I learned how these systems work along with electrical components such as a motor, and how automatic control theory is applied to such systems.

Keen on exploring new technologies, I learned AutoCAD drafting software and Solidworks design software by myself. This knowledge provided me with a set of tools to breathe life into my under grad projects. My first minor project on variable Geometry Turbo chargers introduced me to the working, principle and construction of VGT and its distinction from conventional turbochargers. In my sixth semester I delved deep into Non-Pneumatic Tyres (NPT) studying third principles, working on their construction and uses practical life. My second major project helped me hone my design skills where I designed a NPT using suitable dimensions on solidworks and analyzing it on Ansys. Research, experimentation and sheer hard work led to a successful working prototype of Non-Pneumatic Tyre made using polyurethane in my final semester. I acquired hands-on learning and industry experience with an opportunity to intern at the National Thermal Power Corporation Plant at Badarpur. The sheer power and beauty of the turbine and boiler plant in motion and the practical knowledge of day to day working of the plant was an intensive learning opportunity. Another summer internship at the Diesel Loco Shed of the

Post the completion of the UG program, I yearned for an organizational exposure before opting for higher studies. This led to working with Anmol Enterprises (Shoe manufacturers and suppliers for BATA company) as a manufacturing Engineer. From inspecting the plant to ensure optimum performance to managing project labour and the delivery of materials, and maintenance of equipment, I have learned the intricacies of production management on the job. This industry experience has not only enhanced my engineering and leadership abilities but has also given an insight into handling production difficulties in a real-world scenario. It has now become the wind beneath my wings to broaden my horizons by pursuing a master's degree in Mechanical Engineering. With sufficient industry experience under my belt, I now think it is time for me to explore the complete spectrum of manufacturing systems, Interactive Intelligence and Machine Learning. An MS in Mechanical Engineering is thus a stepping-stone to deepen my knowledge base and will enable me to drive innovation and script savvy technological advancements.

My quest for the most cutting-edge programs in Mechanical Engineering led me to Australia and the University of _____. Australia is a leading destination for international technical education owing to its emphasis on research, innovation and experiential learning. In addition to being a highly developed nation, Australia's breath-taking landscape, invigorating culture and friendly people are something that every student looks forward to. After secondary research on the Internet and discussions with my peers and professors, I feel _____ is an ideal platform for my educational aspirations. The depth and breadth of the courses, coupled with a stimulating research environment are an ideal mix for seminal work and pioneering research in the mechanical field. The comprehensive curriculum and tutelage of world-class faculty will provide me the best academic experience. The collaborative environment and the interactivity in class will ensure hands-on learning while team-based learning will inculcate team spirit and accepting others' viewpoints. On a personal note, the course curriculum is a balance of theoretical and practical aspects of advanced CAE, Thermo Dynamics and Mechanics. I am poised on the thought that the programme will give me multi-disciplinary knowledge and expertise in (Please mention a few University specific curriculum subjects) . Advanced knowledge about designing and implementation of mechanical systems under eminent professors like Dr. _____ and Dr _____ is very much in line with my academic aspirations.

Furthermore, I look forward to be a part of various extra-mural events and initiatives at the University owing to my love for sports, entrepreneurial zeal, industry insights of a developing country, and a desire to work for community welfare. I have been actively involved in organizing cultural activities (Engifest 2015 & 2016) at my college level, and I hope to continue the same at _____. As a member of Dhayn Foundation, I have been volunteering to undertake yoga sessions in K.R Mangalam School and Bosco School and am keen to undertake similar initiatives at _____.

This opportunity to gain an international education in an exploratory environment will open avenues for

employment in Mechanical systems design, mechatronics and manufacturing. As I already have requisite experience in the Indian industry, I intend to acquire international experience in a developed country like Australia to gain knowledge of best industry practices and advances in manufacturing technology. A keen desire to create something of significance in the mechanical world gives me the confidence to take up the challenges offered by this pioneering programme. With great educational pedagogy and international exposure, I determined to make _____the cornerstone of my professional life.