

STATEMENT OF PURPOSE

I remember getting my introduction to the fascinating world of mechanics at the tender age of eleven when I visited the Techfest organized by the XXX. It was here that I came across the latest happenings in the world of machines and technology – glimpses of Robotics, Automobiles, various prototypes of eco-friendly vehicle designs among other exciting finds. This event proved to be the turning point for my academic career. As time progressed, I became drawn towards the intricacies of mechanical creations with an almost obsessive interest in the making and operation of vehicles – how they are conceived and what can be done to increase their efficiency. This progressed to a tendency towards reading up on the subject and even attending quizzes on Mechanical Engineering. When the time came to decide on the course of my undergraduate study, Mechanical Engineering was a natural choice.

At xxxx life threw up the perfect occasions to relive my love for vehicle mechanics among other areas of newfound interests through a slew of projects and presentations. For instance, I prepared a paper on '*Material Optimization of Jeep Leaf Spring*' - focussing on weight reduction of the leaf spring to increase the efficiency of the vehicle suspension system. The study involved comparisons in stress concentration, deflections, and weight. This project was chosen for presentation at the prestigious Global Meet on Advances in Design, Materials, and Thermal Engineering (GMADMT) in January 2018, following which my work was published at the International Journal of Scientific and Engineering Research. Being my first official research work and presentation, this was an experience that will help me tackle real-time challenges in the Master's course related to interdisciplinary studies, working as a team, making skilled presentations, and confidently tackling well-crafted questions that require a careful balance between domain-knowledge and people skills.

Speaking of hands-on learning opportunities, college projects had a significant contribution in clarifying theoretical concepts as also simulating professional dynamics. My final year project titled '*Experimental Analysis of Composite Wick Structure in Heat Pipe*' involved the analysis of 3 different types of composite mesh wick structured heat pipes and compared observations and results with a standard heat pipe. Apart from giving me a chance to explore my aptitude for extensive studies that went beyond the immediate syllabi and opening up avenues for the use of case studies, this project is especially memorable for the way it enforced discipline in handling a project from blueprint to execution. A similar experience unfolded during the design, assembly, manufacture, and completion of the software prototype table lamp for the project titled '*Design and Manufacturing of Table Lamp*'. The project reconfirmed the importance of sticking to a routine and seeing things to their completion. Simultaneous to my observations on work-flow and modus-operandi styles that might be emulated in the industrial scenario, I realized the value of technical knowledge while working on projects like '*Automated Railway Crossing Control*' that used Arduino programming and Atmeg921 IC sensors for the use of appropriate codes for an automated Railway Crossing Gate. These projects were extremely helpful in practically demonstrating theoretical learning on subjects such as Heat Transfer, Mechanics, Industrial Engineering and Management, and Automobile Engineering, among others. Conscious about the role that course-work plays in the building of a well-informed academic profile, I was consistent in my efforts towards pursuing excellence in subjects under the curriculum. Some of these, such as Mechatronics and Theory of Machines were undeniable favorites and translated to straight 'O' grades, placing me among the top 10 in my class. Further to equipping me with a strong knowledge

base that I can build on in my Master's degree, the theory-practical learning combination gave me a holistic understanding of Mechanical Engineering, right from the production and designing perspective to the budgeting angle and finally, the right ways to improve efficiencies to achieve marketing goals within the economic constraints of the client and organisation in question. This bird's eye view of things is precious considering my goal to be employed in a position with decision-making responsibilities and power at a frontline organization dealing in Machine Development and Ergonomics, as they will assuredly help me in graduating from an engineering to a managerial role with abilities to not only create but also align production to common business goals.

My academic journey in college could not be complete without the internships and industrial visits that I participated in and which had an integral part in enhancing my industry-orientation. While interning at the Jawaharlal Nehru Airport (Mumbai) was an eye-opener in terms of intricacies of carrier ships, vehicles, and machineries around the port; my short stint at Central Railways (Kurla Crashed, Mumbai) helped me to gain knowledge on different sections comprising local railways, types of braking system, norms and regulations pertaining to construction of a local train bogey and much more. Besides these, the industrial visit to the Thermal Power Plant in Dahanu helped me acquire a better understanding of Thermal and Fluid Power Engineering through a tour of components of the plant right from raw material (coal) procurement, processing, combustion, to the transmission and generation of electricity. These intriguing instances offered me vital industry exposure and a chance to come face to face with actual operational challenges of a professional work environment, thus preparing me to be more realistic about what to expect from an overseas study situation and a professional career in the Mechanical Engineering field thereafter.

In the context of my achievements in the academic, practical, and research fields and keeping my long-term goal in mind, I think **xxx** University will be an ideal fit for my Master's studies. I am drawn to the excellent location, the exhaustive library and laboratories, the impressive infrastructure and most of all the renowned faculty panel that have proven skills of churning out all-round industry-ready professionals over the ages.

I sincerely hope that my credentials will make a strong case as far as the selection is concerned.