

STATEMENT OF PURPOSE

I Kushagra Agarwal, work at Tata Consultancy Services in the Robotics Innovations Lab as a Research Engineer, aim to pursue Master's in Computer Science Program at your prestigious University.

Having learned to code in ninth standard and handled computers from a young age, I chose to pursue my Bachelor's in Computer Engineering after finishing school. I have always aced the subject with flying colors, both in school and during my undergraduate degree. My curiosity and a never-ending appetite for knowledge saw me exploring diverse areas of the limitless field, including App development, Web development, Databases, Cloud Computing, Artificial Intelligence and many more, through myriad projects, competitions, internships and courses. I even worked on something truly unique and innovative for my final year project with my peers, which was developing a chatbot application to assist Homeopathic practitioners with better diagnosis and drug recommendations to the patient. Moreover, we also published a paper based on this project which familiarized me with the way of writing for research purposes.

Learning to build websites and mobile applications alongside the coursework immensely aided during my internship; it was a lot of fun, but I was seeking for something more intriguing. Having attended numerous workshops, events, and academic courses on Artificial Intelligence and Machine Learning, demonstrating its applications in every domain, piqued my interest in the field. I took several courses on ML, Statistics and Data Analytics and created projects including a Heart Disease Prediction System and a Recommendation System utilizing models like Regression, SVM and Decision Trees. During my final year, I also mastered the fundamentals of deep learning and built a project for object detection using YOLO neural network which has really assisted me in my career.

To my delight, the profile I built over the years presented me with an opportunity to work for the India's largest IT Company as a full-time professional after my Bachelor's ended. Working as a Research Engineer in the Robotics Innovations lab at TCS, my job here is to study and build end-to-end pipelines that incorporate everything from object detection to object acquisition. I have been gaining hands-on experience in Computer Vision and Deep Learning technologies while being involved with developing Robotic Vision. Thus, in the lab

I am employing sensors like Ensenso S10 and Kinect, and even applying Image Processing concepts and various rendering techniques to create 3D models of the real world objects that will be fed to the Deep Learning models to accomplish machine perception. Besides this, I have been working on the Robot Operating System to interact with the smart machines, and have been regularly conducting research on the most favorable environment to capture and render 3D models. I am also estimating 6D poses, creating meshes, generating photorealistic synthetic data, implementing object recognition, and so forth. When I see an actual robot executing its job through the program to which I contributed, I become inspired and feel like I have accomplished something. This experience has been quite unique and enriching which has broadened my perspective and helped my thought process to evolve. Being an inquisitive person who enjoys broadening his work horizons by constantly seeking for possibilities to bring greater ideas and features to his work, a job, no matter how rewarding it is, could never stop me from craving for more.

This mindset that I have shown throughout my academic and professional career hopefully explains why I am so keen to pursue a Master's in Computer Science after gaining one year of work experience, which was necessary to make sure that I can absorb my graduate studies to the fullest. After learning about the use of Artificial Intelligence in the field of Robotics, I am keen to explore its other applications and expand my domain knowledge. After achieving the level of expertise I am currently intending to attain; by enrolling in relevant courses in your Master's program, I aspire to work as a Data Scientist, AI Engineer or Computer Vision Engineer in a tier-1 IT company in the United States that has plenty of resources and exciting projects.

Hoping to have proven myself as an eligible candidate, I have come to seek help from your esteemed university for writing the next chapter in the book of my career, I thus request a place in your vibrant academia.