

Cover letter

I am Anushtha Kalia, a senior pursuing BTech in Information Technology and Mathematical Innovations from Cluster Innovation Centre, University of Delhi. As it's name suggests, we have a very unique course curriculum which has not only taught me Computer Science but also, how to use it as a tool to solve problems concerning various areas. The papers, projects and the internships that I have undertaken for the last three years have not only helped me in developing my programming skills but also taught me how to work in a team and communicate effectively.

Internships have had a significant contribution in development of my skills and helped me figure out my area of interest. In my first year, I interned at SAG lab, Defense Research and Development Organization and worked on fingerprint identification system. The project dealt with enhancing fingerprint images and extracting characteristic points out of them in order to develop an identification module. During this project, I was introduced to the concept of neural networks which really fascinated me and led me to take up projects associated with machine learning. I completed Andrew Ng's Machine Learning course on Coursera and then took up a project where I had to use supervised learning to detect a drowsy driver given alertness related features. The paper for the same project titled 'Predictive Analysis of Alertness related features for Driver Safety Applications' was accepted at the International Conference on Intelligent Systems Design and Applications (ISDA) 2017 and published in Springer, Cham. This project helped me apply all the theoretical knowledge that I had gained to solve a critical problem in the area of Intelligent Transport Systems.

In the same year, intrigued by the devastating ransomware attacks, I decided to explore applications of Machine learning in cybersecurity. I worked on malware detection using behavioral analysis and unsupervised learning where I made use of self organizing maps to cluster behavior based features to draw useful insights. This summer, I interned at Pitney Bowes and worked on detecting building footprints through satellite imagery data. The project dealt with satellite images and involved the usage of semantic segmentation algorithms to build an automated system. Alongside, I have been working remotely at Stanford School of Medicine, where my project involves making use of deep learning to detect Parkinson's through sustained phonation.

All these projects have exposed me to various aspects of machine learning and its ability to revolutionize various areas inside out. Because of such deep interest in machine learning, I got associated with PyData Delhi and organized various workshops and meetups to get people acquainted with this magnificent area of computer science. I have been in the top 1% of my class through all the semesters till now and I believe that I possess the combination of skills and experience which would make me a successful intern at your organization. Moreover, I am excited to learn and get experience in any way possible. I hope you would accept my application for your internship program at Johnson & Johnson.