

# Ashish Kumar Sah, M.Tech Applicant

## Department of Computer Science and Engineering

My career aspirations are not childhood dreams but rather a work of consistent knowledge and learning about my interest domain. I am interested in the area of Artificial Intelligence, particularly in machine learning. My journey towards this particular field started during my undergraduate training when I observed a senior's self-driving car model based on reinforcement training.

Since my school days, I am very passionate about learning science and mathematics. I used to read science books from several authors simultaneously during grades 9<sup>th</sup> and 10<sup>th</sup>. I also participated in Science Olympiad during my +2 journey, and I was selected for Tier I round. Being interested in these subjects and the era of technology booming worldwide, I decided to pursue my undergraduate degree in Computer Science and Engineering under a full scholarship programme offered by Indian Embassy. To win this scholarship, I had to clear a highly competitive exam conducted by the Indian Embassy and secure a position within the top 200. This scholarship covered all the tuition and additional academic fees and provided me with a monthly stipend.

During my bachelor's study, I opted to study an elective course on Advance Algorithms by Dr. Subhrajit Bhattacharya, where I developed more interest in Amortized Analysis, Flow networks, approximation algorithm for NP-complete problems, and many more other concepts. It was a great experience for me learning Theoretical Computer Science. It also led me to join another optional course on Machine Learning by Prof. Sujata Joshi the very next semester. The concepts such as linear regression, decision trees, naïve Bayes algorithm, KNN, and random forest were taught in the course. I also conducted the classification of data using a decision tree and KNN model as a mini-project assignment. I developed an inquisitive and learning mindset towards this field, and with this passion for machine learning, I joined Mindmatrix Pvt Ltd as a summer intern. During my internship days, I learned to classify data using different ML models and to calculate their accuracy, knowing how different models are suitable for different data sets, and how one can improve the accuracy. Moreover, during my undergraduate studies, I also studied introductory subjects such as discrete mathematics, graph theory, and linear algebra, which are essential for AI careers.

The passion and interest in this field enabled my peer and me to successfully build a model that can assist in individual financial management. My role in this project was to successfully develop, test, and integrate an NLP model used inside a chatbot to answer user's queries. Finally, we were

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able to publish our work, titled "FinAID, A Financial Advisor Application using AI" in International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-9 Issue-1, May 2020

My long-term goal is to help my country and its people get access to all the facilities that technology can enable and make their lives easier. I believe that a good career can only be built on a firm foundation of a good education. I would consider it my privilege to pursue my postgraduate studies at IIT-KGP and avail myself of the excellent infrastructural facilities and research opportunities it offers. I am sure that the stimulating academic environment and interaction with the distinguished faculty at IIT-KGP will prove immensely fruitful and facilitate my development as an individual. I feel that I am adequately prepared, both in technical qualifications and in having the right mindset for postgraduate research and projects.

I look forward to joining IIT-KGP as a postgraduate student at your esteemed department.