

STATEMENT OF PURPOSE

When I was first introduced to computers in my childhood, I was immediately fascinated by how intuitively it could solve some daily problems. As I grew, I realized the importance of problem solving and analytical thinking to make a career in the field of computer science. This realization only incremented my interest in the field as it served to my problem solving nature. Now, being on the verge of completing my Bachelor's degree, I believe that I have laid a solid foundation in computer science to study in depth "Software Engineering" and hence I believe that a Masters in Engineering in Electrical and Computer Engineering from University Of British Columbia would help me achieve just that.

During my higher education at "Innocent hearts school", I consistently scored good marks in subjects like Mathematics, Physics which boosted my confidence in problem solving. Furthermore, to satisfy my interest in software, I took "Informatics Practices" subject as an elective for my higher education in the domain of Java and MySQL. During the same time, I developed projects like Airline ticket booking system with real-time seat availability updates and Banking Transaction System which strengthened my hold over object oriented programming paradigm. Furthermore, I was a part of team which developed a project "Voice Controlled Robotic Arm" for which I was responsible for the coding aspect. This project was selected for national level CBSE science exhibition in 2014 after it won the state level project competition. Also, we were awarded by the Deputy Commissioner for the same project.

Hence It was natural for me to choose "Computer science and Engineering" as a focus of my study for undergraduate studies at Guru Nanak Dev University, one of the best public universities in Punjab. During my time at university, I became acquainted to most cutting edge technologies. The faculty of the university and the vibrant community of student helped me further harness my potential in computer science. The coursework included subjects like Artificial Intelligence, Software Engineering, and Data Structures which laid a solid foundation in the field. I actively participated in the intellectual debates and seminars on topics like Machine Learning, Big Data as a way to brainstorm about new technologies.

Apart from university coursework, I took 6 months industrial training in J2SE and J2EE in third year, during which I worked upon spring, struts and hibernate. As a part of training I developed projects like chat system using socket programming, remote method invocation, and java swing component. During second year, I got an opportunity to work as a web developer for "Indicium Hub", an IT company located in Rajasthan. I was offered a research internship by the same company due to my performance in web development internship to research in the field of Artificial Intelligence. Our research paper "Agriculture Advancement using Artificial Intelligence" was published successfully in IJATES and our team was called upon for conference in Delhi subsequently. Furthermore, in my third year I also developed a Tic-Tac-Toe game using Java which included AI based opponent which I implemented using "Minimax algorithm". I also developed a facial recognition application using OpenCV for image processing and Naïve Bayes for image classification. I was also part of team that developed the quiz application using java for the annual technical fest 2018 held in our university.

Now, in my 8th semester, I am going to take a 6 months industrial training in Machine learning to prepare myself for higher studies in Canada. Since I am deeply interested in machine learning and I aim to do graduate degree in this focus, I believe that getting a training would prepare a solid foundation for me. During the training, I will studying various machine learning and deep learning algorithm along with data analysis process including visualization, wrangling and data mining. To reinforce the theoretical knowledge, we will be implementing the learned concepts in the form of projects such as recommendation system and intelligent bots.

In terms of extra-curricular activities, I participated in in various inter-college coding competition such as Code mania (1st Position) and code-war 4 organized by TSS-DCSE GNDU(3rd position). In 2nd year, I organized an online coding event on hackerearth.com for our annual technical fest 2017 and I was the coding head of our organization team for annual technical fest 2018. Also, I periodically participated in the university level chess competition as well as the cricket tournament during sports meet held in our university. Additionally, I continue to guide juniors by regularly conducting seminars and lectures.

Having studied Artificial Intelligence as an elective subject in the 7th semester instilled in me a deep interest via its applicability and scalability, both as an interactive method for Problem solving and its supplementary integration with other areas of the computer science. Hence, artificial intelligence has emerged as a prime area of interest I wish to study in. A broad spectrum of applications exists within the field of artificial intelligence such as robotic vehicles, speech recognition, games, spam fighting, machine translation and logistics planning which provide the omnipresent computing solution to the users. This diversification in the applications of Artificial Intelligence compelled me to pursue and explore artificial intelligence further. Hence I believe University of British Columbia has the optimal environment to study the deep concepts of the field under the best of mentors that the university has to offer.

After consultation with my professors and doing research on my own behalf, I have chosen Master in Electrical and Computer Engineering offered by ECE department of University of British Columbia, as the most appropriate institution to pursue my higher studies. The competent faculties, academic resources and environment at University of British Columbia will help me in exploring the field of computer science to its full potential. The stupendous research background of all the faculty members and labs installed with high-tech facilities will be an asset to help me develop practical understanding of learned concepts. If given a chance, I am sure that I will be able to harness my knowledge and potential to reach new acme in the field of computer science.

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