Statement of Purpose

The integration of mathematics, analytical problem-solving and technology is what excites me about Computer Science! Developing server-side applications in various programming and scripting languages during my undergraduate program has taught me a lot of new things and paved way for my keen interest in pursuing an MS in the domain.

Through my undergraduate course, I acquired an overall perspective of this scientific discipline with a particular interest in Object Oriented Programming such as Java, Data Structures, Database Management System, Web Designing, and scripting languages like HTML, PHP, JavaScript, and XML. These subjects also enhanced my programming skills to an extent where I could create my own algorithms to find my way out of a problem definition. This is the part I enjoyed the most as I had to delve into various perceptions to come up with an optimal solution. I spent time in labs analysing theoretical aspects of Core Java, PHP integration with MySQL and converting them into practicality.

In the third semester, along with two of my friends, I developed a simple application called Student Database Management System on the request of our HOD. Initially, we found it difficult to handle the large volume of data and server availability but we created server nodes so that even if one node fails, others can come up. By using the complete framework of Core Java for mediation, MySQL for database and Javascript to develop dynamic web pages, we were able to create this application in three months. I worked specifically on developing the framework and created dynamic web pages. Our efforts were appreciated by the HOD and entire faculty. The same semester, I also earned a Certificate of Optical Fiber Technician conducted by Telecom Sector Skill Council for Skill Development in Electronics System Design and Manufacturing, conducted by the Ministry of Communication and Information Technology, Government of India.

I broadened my ken of knowledge further through leading various other projects. I worked in a team of two to develop a Music Playlist Web App. Leading the front-end development of the website singlehandedly, I coded from scratch using HTML, CSS, JavaScript, and JQuery. In the fifth semester, I developed a desktop application, 'Domain-Specific Knowledge Analyzer,' that puts forward questions in the form of MCQ's and analyses the user's knowledge. It was used practically to test students who wanted to join the college's computer science club, Kerberos Technical Team. In the sixth semester, I built an online blog app, using HTML, CSS, Javascript, and Jquery in front-end and Node on backend using mongoDB as a database. I have learnt this on my own to widen my knowledge.

My desire to gain exposure to the software industry prompted me to complete various training and internships too. During one of these, at Netmax (Jun'15), I worked with C and C++ for six weeks and undertook a project on Airline Reservation System. The experience of creating real-time projects, testing and delivering them on time was exciting!

In the final year, given my command over OOPS concepts and programming, I secured the position of a Teaching Assistant and helped my classmates. This enhanced my skill-sets as well. Active participation in a wide range of co- and extracurricular activities ensured all-round development of my personality. As the Coordinator for Kerberos, I organized various technical/non-technical events. I also volunteered to organize events for Startup Jalsa in Chandigarh (Feb'15) wherein aspiring entrepreneurs 'Ideate', esteemed mentors 'Inspire' and open-hearted investors 'Invest.' In the eighth semester, I completed a three-month internship

with Startupfarms. Apart from this, I was the Student Representative of the Computer Science Department for two years, a member of the Department's soccer team, and captained the Department's cricket team too. These experiences improved my people management and social skills.

My technical proficiencies bagged me three offer letters from campus in the seventh semester. I chose to join Capgemini (Jul'18) as a Software Engineer/Analyst as it gave me the opportunity to explore various technologies. During training, I learned about J2EE Web Application Development using Spring Framework, Angular JS and JSP with Hibernate, and Web Services. Being proactive, I developed a project, 'Bank Management,' using Spring Framework that earned me a Certificate of Appreciation. I achieved the third position among a batch of 50 trainees and was placed in a project related to webMethods in the field of Cloud Computing and Integration. Developing new technologies in Integration has enhanced my understanding of cloud and API management. To up-skill myself further, I've also undertaken training in Cloud Computing and Machine Learning through in-house programs and online platforms. My intuitiveness and urge to learn new things quickly as well as analytical skills earned me a 'STAR Award' in my project (Jun'19).

Thus far, I've gained a stronghold over many different technologies encompassing programming, web development, machine learning, and cloud computing. Working on real-time projects has whetted my application skills. I'm now keen to develop more in-depth knowledge of machine learning and distributed operating systems through a master's degree in Computer Science.

Post MS, I want to join firms such as Prolitus or Endive Software that are working on exciting machine learning projects to help startups and SMEs in automating processes. I want to especially work on projects in healthcare involving deep learning and neural networks. My long-term goal is to develop a solution for the healthcare industry that would give suggestions about possible diseases, diagnosis, and which specialists to consult based on the symptoms of the patients.

My research on graduate schools has led me to the California State University Long Beach. The MS program in Computer Science caters to all my learning goals with its extremely focused curriculum including subjects like Advanced Analysis of Algorithms and Pattern Recognition. I'm glad to know that I can opt for subjects of my choice too such as Advanced Artificial Intelligence that I have been studying on my own for the last one year but want to excel in now by getting some practical experience. Research by Prof. DR. WENLU ZHANG in Retrospective correction of motion artifact affected structural MRI images using deep learning of simulated motion intrigues me. I'm also excited at the prospect of being guided by other professors. Given a chance, I would love to involve myself in ongoing endeavours in Artificial Intelligence lab.

Thus, the California State University Long Beach will undoubtedly provide me with the right knowledge, skills, and experience to pursue my dreams with confidence and leverage the opportunities that lie ahead to the fullest extent.