****Academic Statement of Purpose****
Sarthak Gupta
Computer Science & Engineering M.S.E.

"It is indisputable that computer science is heavily dependent on mathematical ability, logical reasoning, and, most importantly, problem-solving." Dating back to my childhood, I have always been the type of child who was fascinated by the many remote-control gadgets around me, not only because they were elegant but also because I was curious about how they worked. I've always been confused as to how we can drive a car with a remote control or how a person sitting miles away can communicate with someone on the other side. The answer came much later, after I had opened a dozen of these radio-controlled toys out of curiosity and experimented with their parts for school projects; that is how I determined what I wished to pursue.

Computer science relies significantly on mathematical skills, logical reasoning, and, most importantly, the ability to solve problems. Consequently, I anticipate that CS and engineering will usher in a revolution as we gain a deeper understanding of human requirements. As the course structure and topics became more intricate, my curiosity grew. I could work on arithmetic problems for hours since they were not just difficult but also intriguing. In tenth grade, I earned a GPA of 10. As a core subject in my senior year of high school, I continued to study computer science in general. During these times, I used to compete in a number of coding competitions with my peers, and my interest in the subject grew.

It was in 2018 when I decided to enroll at VIT University to pursue a B.Tech. in Information Technology. Here I began to meet individuals with diverse interests and perspectives, which energized me about the vast opportunities for creative and collaborative work across numerous disciplines. During my early undergraduate years, I joined the student organization **ACM** initially as a volunteer, and then had the opportunity to become the chapter's Chairperson for roughly a year. During my tenure, I was fortunate enough to meet extremely sincere coders that helped me push my limits and practice more coding. This soon became my obsession; I was ranked **1100 out of 239399** globally on CodeChef's coding platform. I'm proud to say that, under my leadership, community members delivered stellar software solutions like Octave for music streaming, Dolos for data mocking, and Bulls vs. Bears for online stock market simulation. Not only this, but ACM also became the biggest open-source contributor to the Github-organized Hacktoberfest. I believe that ACM was a vital part of my life as I was able to interact with other individuals to discuss their ideas and teach each other what we knew best.

During undergrad, I explored various computer science subfields. Some through MOOCs like "Mathematics for Machine Learning" from Imperial College London, "Big Data Modeling" from Johns Hopkins University, and Google Cloud Certification from Google. My college courses have inspired me to explore these fields. I thus decided to submit **"Prediction of suitable RAID technology for an application using machine learning"** to IEEE Globecom 2021 and **"EADP: Enhanced Authentication Using Novel Dynamic Password"** to IJSRET in 2019.

In 2021, I, along with a handful of other students in my college, got the chance to work on a project to improve the education system in India. I lead a team full of dedicated writers, engineers, designers, creative analysts, and coders to create an effective learning environment for students to learn coding. **"FuncBox: Coding for Kids"** as a platform got national attention when our team won **IIT Kanpur's** UpStart competition, where more than 200 company ideas competed for the title. It focused on bringing a small box full of creative app cards that will help, kid learn to code, build, and share apps. FuncBox taught me how to manage limited resources and turn

them into goods that could help millions of school-aged children. The project was further incorporated as a full-fledged company in December 2021.

In 2022, I interned as a **"Backend Software Engineer"** at India's **"MakeMyTrip."** I was part of the backend team and was given a project called "Pustak" to build my Django-based REST skills. The project taught me how to make a microservice-based web app with web scraping, guardian permission control, CICD pipelining, caching, etc. My start was great. MakeMyTrip hired me as a Software Engineer after my internship. Since then I worked on some of MakeMyTrip's most important projects, including automating Enigma (BFF layer) using GoLang & GraphQL along with building multiple RESTful systems to manage content push to various pipelines using Django, MySQL, Kafka, AWS, Jenkins, and JavaScript.

Aside from academics, I like spending time growing myself and others around me. To refresh my memory, I enjoy badminton, chess, and swimming. I'm also an avid traveller who enjoys learning about new cultures and cuisines. To date, I have travelled to around 15 countries in the world and have enjoyed potlucks with the people I meet on the go. In my spare time, I also like teaching youngsters who cannot afford a proper education. I used to go to **"Anokha,"** a local NGO near our university, with a bunch of other friends to teach these underprivileged youngsters about technology and basic hygiene. We constantly attempted to make time in our college schedules for these students, which made them happy.

Technology has always been a driving force in my life, and now that I have the necessary interest, skills, knowledge, and work experience in computer science, I believe this is an excellent opportunity for me to focus on this field and that my endurance and goals are a great match for your M.Eng. in Computer Science program. After perusing **Cornell University'**s website and roster of highly educated instructors, I'm sure this degree will help me advance my academic and professional careers. The course description is perfect for my field and long-term goals. In this vein, I eagerly await your formal clearance to pursue a graduate degree under your outstanding professors.

Sincerely,

Sarthak Gupta