Growing up in India in the 21st century, I witnessed the country transform from a cheap labor market to a digital powerhouse. However, the country still suffers in various areas, such as a lack of technical experts, dwindling research contributions, and the production of subpar applications. All these result in a pool of talent who are neither able to produce quality products nor promote a scientific mindset. On the other hand, I have always been fascinated with the world of computers, elevated further due to innovative digital solutions and recent research contributions, like *the* *Transformer Architecture*. Therefore, a master’s degree in *Computer Science* will not only enhance my abilities but also educate me on advanced topics like *Machine Learning* and *Human Computer Interaction (HCI)*. Furthermore, it will provide me with an opportunity to contribute to the scientific arena as well as equip me to tackle the challenges of the modern world.

While pursuing my undergraduate degree at Heritage Institute of Technology (HIT) in Computer Science and Engineering (CSE), I undertook various courses like *Database Management Systems*, *Web Development* and *Computer Architecture*. However, my passion for Computer Science truly ignited when I learnt about *Data Structures and Algorithms (DSA)*. For instance, I was amazed how *the Quicksort Algorithm* isn’t just for sorting a set of elements; it is also able to do a partial sort, i.e., finding the correct position of an element without even completely sorting the entire set. Another topic which piqued my interest was *Machine Learning*. The ability of a program to train itself to recognize the characteristics of a data set and then determine if an unknown entity fits such characteristics is remarkable. It breaks away from the traditional paradigm of a computer process being explicitly programmed. Additionally, I learned various programming languages like *Java, C++,* and *Scala*. However, I do have a favourable view towards *C+*+, as I have found it to be very fast, and provides better control when coding data structures. I was also very much interested in competitive coding and would often participate in hackathons like the *NASA Space Apps Challenge in* 2018, where I, alongside my team, finished as the runner-up at the state level. Furthermore, I would regularly participate in coding contests like the International Collegiate Programming Contest (*ICPC)*. Next, I was an active member of the local *Association for Computing Machinery (ACM)* chapter, where I was exposed to various programming languages like *Python* and *JavaScript and* was exposed to technologies like *Data Mining*. To enhance my competency in the latest digital tools, especially *Cloud Computing*, I obtained the *Microsoft Azure Fundamentals* (AZ-900) certification. Gaining the necessary skills from this certification proved to be beneficial during the development and hosting of various projects. Beyond academics, I was also the coordinator of our tech club – GeeksUnited- where I would organize boot camps to help interested individuals to upskill themselves and meet industry requirements. Additionally, to uplift the unprivileged section of society, I was part of the Rotaract Club, where I taught young children the basics of Mathematics and Computers.

Since the beginning of my college days, I always felt the practical implementation of my knowledge was very critical to have a firm grip on my abilities. One of the projects I worked on, is *Myntra Price Tracker*, a *multi-threaded Python GUI* applicationwhich tracks and informs users via notifications about the changing prices of clothing materials on e-commerce platforms. Under the guidance of Prof. Somak Sen, I created an *MEVN* application called *Sinema – An Entertainment Portal* which enabled users to search for and comment on any movies or shows. Furthermore, a *recommendation engine, based on the Cosine Similarity Algorithm,* was also designed, and integrated with the application to recommend movies/shows as per the users liking. I got my first taste of the professional world when I interned for a startup called Asmaka Ventures in the year 2020. I was assigned the task of developing complex security features and integrating them with their *Enterprise Resource Planning (ERP)* software. After spending some time researching how to protect large applications, I implemented a secure authorization workflow using *JSON Web Token (JWT)* to prevent online attacks, like *XSS attacks*. For my contributions, I was appreciated by the founders and senior fellows of the organization. After graduating in 2021, I joined Tata Consultancy Services (TCS) as a System Engineer in the *Master Data Management (MDM)* domain. During the initial days, many of the business processes were subpar and lacked efficiency, which negatively affected the team's bandwidth and operational costs. To resolve these issues, I developed utilities which would automate various tasks. Next, I created a self-service portal, using *Nuxt* and *Express*. Various concepts, related to *Operating Systems* and *Algorithms* came in handy during the implementation of these projects, highlighting the importance of such subjects.

Pursuing the graduate program in Computer Science at Georgia Tech will enable me to dive deep into various advanced fields and find innovative solutions to many modern-day problems. For instance, even with the recent developments in *Artificial Intelligence,* everyday life has many shortcomings. For instance, poor ad-targeting leads to people seeing inappropriate advertisements on various online platforms. However, such issues could be resolved by using better ML Algorithms, understanding social dynamics, and analyzing Human interaction with computers. This is where an institution like Georgia Tech makes the difference. The university has been at the forefront of many diverse research activities. Like designing applications to detect online adversarial behaviour or predict the response of social systems. The presence of research centers and labs like GVU Center and ACME Lab help in creating a collaborative and intellectual environment. With the inclusion of intriguing specializations such as Human-Robot Interaction, Social Computing and Machine Learning, I am confident of developing an excellent foundation for both research and academics. With the backing of an experienced faculty and a vibrant academic community, I very much believe the graduate program at Georgia Tech will hone my skills and enable me to serve the world in a better way.