STATEMENT OF PURPOSE

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My interest in programming came to fruition during my junior year in high school. Creating a space-shooter game using C++ was a motivating time in my life and prompted me to elect computer science as my major in college. Although I remain equipped with extensive training in the field, technology is evolving at a pace where the expansion of data requires advanced computer systems to handle this input. Hence, there remains a need to efficiently create the systems that are driving our information-based future. After contemplating my future goals, I have realized the necessity to remain abreast of technological advances, an insight that will allow me to make valuable contributions to future generations. Thus, I am applying to the Master's program in Computer Science at Arizona State University to fully comprehend this inherently dynamic field.

Completing the rigorous Computer Science program at MSRIT in Bangalore was essential in honing my programming knowledge, benefitting me in many critical ways to move forward. The Artificial Intelligence course introduced me to the vast world of AI, opening my eyes to the ultimate future of this field. In addition, Big Data and Data Science taught me about the relationship between big data and related technologies, providing me with an informed technical outlook of analysis techniques using Hadoop and R. Finally, Design and Analysis of Algorithms instructed us on topics that focused on graph traversal, greedy algorithms and dynamic programming, and I found it to be the most logically driven course in the program.

This comprehensive education was complimented by participation in several projects. For Artificial Intelligence, I built a robotic car, one that presented a dynamic steering algorithm and ensured that the robot could navigate smoothly in an unknown environment and avoid collisions. I used an Arduino Uno microcontroller as the main hardware component and A* algorithm for path finding and traversal. One of my most defining accomplishments was however creating a model to store and analyze Electronic Health Records of individuals in rural Indian areas. An Android Application was created to input, display, and store patient data, which was then fed to the Cloud and stored as an object in Microsoft Azure Blob Storage. After loading the collected data into Hadoop Distributed File System, a Pig Script was used to extract relevant data for analysis. A regression model trained using a cubic kernel regression was developed to predict the blood sugar from the collected data. Implemented using Theano python library, Convoluted Neural Networks was used to train a model to detect anomalies in the patient information records.

After completing the intricate details of each application, the distributed data was aggregated into a single entity and could be accessed by the government to determine health issues that require immediate attention and evaluate mitigation plans. My project idea was selected for the Motorola Scholars award program in 2015-16 and this honor was truly an inspiring time in my life. It was also selected to be implemented at National Institute of Technology, Karnataka. To add to this, the Journal of Management and Analytics (Taylor & Francis online) accepted the study for publication and it will appear in the upcoming volume 5-2018.

With the aim of facilitating my academic training, I accepted two internships. While working at Capgemini, we completed a project that aimed to automatically classify customer complaints on a product into various subcategories. I learned a great deal about Natural Language Processing and was able to extract email contents and perform trimming, along with implementing simple stemming,

lemmatization and PoS tagging on python using the NLTK library. Thereafter, I worked at Wells Fargo as an Analyst where I collaborated with a team to gain insights into real time stock data of four companies. I was involved in data preparation and cleaning using Java, after which I was trained on ELK stack. Using Logstash, I indexed the dataset into ElasticSearch and created visualizations on the same using Kibana. This experience not only taught me about new technologies and provided more exposure to Java, but it illustrated the uses of practical applications in a corporate environment.

Due to my exemplary performance as an intern, I was offered permanent employment with Wells Fargo as an Applications Programmer and Analyst. My responsibilities entail developing and supporting a wholesale service, Image-File-Import, to a LockBox application. Throughout my tenure, I have become proficient in Java, Oracle SQL developer, and shell scripting. In the support role, I have acquired an in-depth insight of the various issues and risks associated with a live service and the appropriate response to resolve them. My time here has been well spent and I truly believe that my academic training, coupled with a wide-ranging professional background will serve as a solid foundation to draw upon while completing graduate studies.

After carefully examining my skills and abilities, I truly believe that a focus on Computer Science at ASU is suitable for me. I dream of being involved in the Data Mining and Machine Learning lab (DMML@ASU), where there are significant opportunities to conduct research and work on cutting edge machine learning projects. Here, the support, guidance, and assistance from experts in the field would assist with the development of my knowledge. I am also inspired by the Center for Cognitive Ubiquitous Computing (CUbiC), where I aspire to participate in Machine Learning projects to improve healthcare.
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After achieving my graduate degree, my goal is to secure employment as a Data Scientist focussed on applications in healthcare. In the longer term, my aim is to build on the Electronic Health Records analytics model, which I believe has the potential to contribute significantly to the medical field. My goal is to provide people with a secure, simple and scalable system that can be used to keep track of health conditions. This would offer a simple understanding of medical trends to the general population, information on various medical issues and tactical solutions to control and mitigate these problems. With an education from Arizona State University, I will be able to contribute to our data focused destiny as a leader, one who is clearing the way for others to follow. I truly thank you for your time in considering my application and hope to hear from you in the near future.