

STATEMENT OF PURPOSE

A defining experience in my academic journey was my project on creating a Software Requirement Specification (SRS) for a voice recognition system in the 3rd semester. I was particularly excited by the challenge of working with natural language processing (NLP) and Machine Learning techniques to improve the system's accuracy, especially in noisy environments with diverse accents. A crucial challenge I encountered was optimizing the model to handle varying speech patterns, which I overcame by applying advanced data preprocessing techniques such as noise reduction and scaling. To help the algorithm identify different accents, I included instances of various speech patterns in the training data. This improved the system's ability to recognize speech even in the presence of background noise or a varied accent. The project provided me with hands-on experience fine-tuning machine learning models for use in real-world applications and deepened my interest in Data Science. Pursuing a Master's in Information Technology and Management, which will help me develop advanced technical skills in this field, gain a deeper understanding of data management and system architecture, and equip me to tackle complex challenges in building scalable, intelligent systems.

My undergraduate studies in Computer Applications at Jain University, Bengaluru, helped me build a solid foundation in Programming Languages, Web Design, Database Management Systems (DBMS), Data Structures and Algorithms, Statistical Methods for Data Analysis, Computer Networks, Software Engineering, and Machine Learning, amongst which I excelled in Data Structures and Algorithms. I have completed certification courses on 'Networking Foundations' and 'IT Security Foundations: Network Security' from LinkedIn Learning which focused on Agile Software Development and the Software Development Life Cycle.

During my academic tenure, I undertook a significant endeavor in 5th semester to create AI-generated artwork for cancer detection using Convolutional Neural Networks (CNNs). The objective was to leverage Machine Learning techniques to automate the detection of cancerous cells in biopsy samples, improving diagnostic accuracy and reducing the time required for analysis. By using CNNs, I was able to train the model to identify patterns in medical images, which could assist medical professionals in diagnosing cancer more efficiently. I also explored advanced applications of Artificial Intelligence such as Generative Adversarial Networks (GANs) and Neural Style Transfer to design visually appealing awareness posters tailored to specific audiences, combining artistic design principles with AI to create personalized and engaging content. This project deepened my interest in the intersection of AI, healthcare, and data science, and honed my technical AI skills, analytical and teamwork abilities.

In my 5th semester, I joined SmartCoin, a Non-Banking Financial Company specializing in app-based consumer lending, Bangalore, as an intern where my key role was related to Data Processing, Statistical Analysis, and Data Visualization. I analyzed consumer behavior and purchasing trend data using feature Engineering & Power BI and developed actionable insights such as targeted marketing effort distribution and dashboards for leadership consumption. This experience honed my skills in data analytics, integration of AI with domain specific data to generate innovative solutions, and providing insights for focused messaging.

Up until this point, my cumulative academic and work experiences have helped develop my foundation in Programming, Database Management, Data Analysis, and Machine Learning. I find myself at a critical juncture where I am eager to delve deeper into the realms of Information Systems and understand how it can optimize business processes, enhance organizational efficiency, and provide insights through data analytics. However, I recognize that to make a significant impact in this field, I need to deepen my knowledge in areas such as Enterprise Data Management, Machine Learning, and System Architecture. A Master's in Information Technology and Management, will allow me to bridge the gap between my current

skills and the emerging challenges of the industry, positioning me to contribute effectively to the evolving landscape of data-driven solutions.

Upon graduation, I would like to join Google, Amazon, or Microsoft as a System Analyst or Information Systems Manager working on innovative data management and system optimization projects and contributing to efficient data-driven decision-making, streamlining company processes, and implementing scalable solutions to improve operational performance. Five years later, I aspire to progress to companies like Apple, IBM, or SAP, as a Senior Systems Architect or Data Science Lead, designing creative data-driven solutions, optimizing complex information systems, and leading teams in the design and implementation of cutting-edge technologies that drive corporate development and operational efficiency. As I advance, in 10-15 years, I see myself in positions like the Director of Data Science or Chief Technology Officer (CTO) at Google, Amazon, or Microsoft, where I would undertake projects focused on developing enterprise-wide data governance frameworks, driving AI-powered innovations, and implementing cloud-based solutions that enable companies to harness the full potential of their data.

To achieve these goals, I intend to pursue an MS in Information Technology and Management from Illinois Institute of Technology. Its extensive curriculum covering Computer Systems, Intro to Software Development & Database Management Systems will equip me with the technical foundation to create novel data systems, optimize complex infrastructures, and develop cutting-edge technologies that promote organizational efficiency.

I am particularly drawn to the works of Professor C. Robert Bob Carlson whose research in the domain of Design Patterns as First Class Connectors is very inspiring and I look forward to working on impactful projects under his guidance. I also find Professor Carol Davids' work on WebRTC-based architectures & applications and voice & data networks aligned with my interests in operations research & data analytics and I am excited to learn the fundamentals from her to build expertise for my career.

I am excited to participate in Illinois Institute of Technology's active peer groups and student bodies, including the Artificial Intelligence student Association and CyberHawk Security. I hope to share and gain insights on data analytics, machine learning, and inventive problem solving by interacting with like-minded peers, and conduct workshops and hackathons that encourage creativity. Illinois Institute of Technology's dedication to experiential learning through their curriculum and alumni networking events which will provide significant guidance into my career path by interacting and collaborating with my peers & Seniors.

Aside from academics, I actively volunteered to organize college events, such as the Annual Fest, Anveshana, and tech seminars like Gyan Mela, where I led a volunteer team and oversaw registration administration, visitor interactions, and technical support. I was also in charge of promoting the event through email campaigns, social media, and on-campus advertisements, to ensure maximum participation.

In conclusion, my academic background, project experiences, and unwavering passion for innovation have prepared me to excel in a rigorous Master's program. I am excited about the prospect of contributing to the academic community at Illinois Institute of Technology while gaining the knowledge and skills necessary to achieve my career aspirations. I look forward to the opportunity to engage with renowned faculty and peers, contribute to the university's rich academic environment, and improve my professional development.