Some people are inspired by art, others by numbers. What motivates me, however, is inefficiency. For every redundant task that can be automated, every workflow that takes longer than it should, and for every system that falls apart when the demand arises, I see an opportunity to effect meaningful change. From the moment I turned logic into something executable, I realised that computer science is not merely about building software. It is about engineering efficiency and creating technology to perform long, superfluous tasks that humans shouldn't be burdened with or are naturally limited in performing. Whether it was working on data driven automation projects or designing full stack tools to replace labour intensive manual practices, my goal has always been to make systems smarter and more efficient. I recognised the true meaning of engineering lies in precision, scalability, robustness and thoughtful simplifications.

My undergraduate program in Computer Science and Business Systems from Bharati Vidyapeeth Deemed University provided a strong theoretical and computational foundation. Coursework such as data structures and algorithms, artificial intelligence, and machine learning, augmented by hands-on experience in C and Python, strengthened my ability to decompose complex ideas into meaningful abstractions. Driven to explore beyond what classroom learning offered, I undertook additional courses to deepen my understanding of advanced computational paradigms.

During my third year, I had my first experience with intelligent automation while working on a number plate recognition system for my academic project. This work deepened my understanding of computer vision pipelines, pre-processing techniques and algorithmic pattern recognition. It sparked a real curiosity about how software can interpret and act on data with minimal human intervention. During the implementation of the project, a few challenges were faced. Some images were blurred or poorly lit, others had plates at awkward angles and several contained heavy background noise that confused early versions of my algorithm. Instead of relying on a single technique, I experimented with different pre-processing steps, tested multiple edge-detection filters, and re-designed my segmentation logic until the system could consistently isolate the plate region. Overcoming these setbacks taught me how to troubleshoot systematically and ignited my passion to learn about how software learns to perceive and act on information.

Galvanized by the outcome of this project, I pursued a more ambitious problem in my final year. I designed an automated plant watering system powered by real time weather intelligence. This involved programming the microcontroller, calibrating sensors, parsing live environmental data, and implementing decision logic that adjusted irrigation based on changing conditions. A patent for this system has been filed recognising its potential to improve vegetative health while minimising water waste for time-constrained users. This marked a meaningful milestone in my journey towards sustainable automation. Together these projects crystalised my understanding of how intelligent systems can automate complex workflows and respond autonomously to real world stimuli. The progression from computer vision to data driven automation, solidified my motivation to pursue advanced training in AI driven software engineering.

My internship at LTIMindtree, a subsidiary of Larsen & Toubro, deepened my appreciation for user centered engineering and iterative improvements. I worked on modernising the Employee Central Portal which is a system used daily by their employees yet hindered by convoluted navigation and fragmented workflows. I redesigned the portal's end-to-end UI/UX and created cleaner interaction patterns before deploying them on the ServiceNow developer instance. This project illustrated how even small design and engineering decisions can meaningfully improve how people interact with technology. However, what truly shaped my professional identity was my experience at Tata Communications.

At Tata Communications, I initially worked with the Cloud Engineering team which was responsible for automating deployments, maintaining cloud infrastructure and ensuring systems ran reliably at scale. Working across AWS and Azure ecosystems, I built automation that turned error prone deployment routines into structured and predictable flows. I contributed to developing CI/CD pipelines, writing deploying scripts that encoded infrastructure decisions as reproducible logic,

monitored configurations that reduced manual repetitions, mitigated deployment failures and bolstered the reliability of the system. Through these tasks, I learned the value of invisible engineering. The kind that users never notice but organisations rely on.

After transitioning to the Service Operations team, I developed three full stack web portals, each designed to replace error prone and time consuming legacy practices. The portals were responsible for automating daily efficiency reporting, consolidating order tracking and measuring operational performance. I built these systems by architecting its API layer, authentication pipelines, data schema and real time dashboards. What once existed as scattered spreadsheets evolved into secure, API-driven, database-backed systems with instantaneous visibility and accountability used company wide and reducing manual errors, processing delays and fragmented reporting. While engineering these systems, I noticed a familiar pattern. With every workflow that I designed, every automation that I built and every bottleneck that I removed, I found myself drawn to the subtle friction points and gaps that most people overlook but are the ones that quietly define whether a system scales or collapses. These are the challenges that most compel me.

This naturally made Stanford the next step in my journey. The culture of interdisciplinary work focuses on solving real world problems that align directly with my ambition. Courses such as Artificial Intelligence: Principles and Techniques (CS 221), Machine Learning (CS 229) and HCI design (CS 247) perfectly intersect my interests in intelligence, engineering and usability. I am deeply inspired by Stanford's HAI initiative, and the Vision and Learning Lab. Equally exciting is Stanford's collaborative culture. I hope to contribute to the Stanford Computer Science Student Council, the Women in CS (WiCS) organization and Stanford AI Club, where I hope to share my industry experiences and learn from peers solving diverse engineering challenges.

At Stanford, I am particularly inspired by Professor Andrew Ng's work in data-centric and human-centered AI. His approach to improving real-world AI systems through better data, practical engineering, and usability resonates with my own journey. Having built end-to-end systems, I have seen how critical data quality, workflow design, and user experience are to making systems reliable. I am drawn to recent Data-Centric AI efforts, like creating systematic data-quality pipelines and human-in-the-loop annotation workflows. I hope to contribute to projects that create intuitive annotation tools, data-management interfaces, interactive error-analysis dashboards, or AI-driven applications. Working with Professor Ng would allow me to merge my engineering background with my dedication to socially grounded AI, producing solutions that are not only technically robust but meaningfully impactful.

In the short term, I aim to work as a software engineer building intelligent automation systems that improve efficiency. In the long term, I hope to integrate distributed infrastructures with the capability of adaptive decision making to solve high impact inefficiencies across various industries.

With a foundation in full-stack development and intelligent automations, and a deep commitment to engineering systems that eliminate inefficiencies, I am prepared to contribute meaningfully and leverage Stanford's MSCS Program to become and join the ranks of engineers determined to drive socially rooted data-centric AI systems and research adaptive decision making capabilities for distributed infrastructure.

I sincerely thank the admission committee for considering my application.