Building with Purpose: My Journey from Curiosity to Impact

Dear Admissions Committee,

My name is Emmanuel Makau, and I am currently a Mathematics major at Dedan Kimathi University of Technology. I have a growing passion for solving real-world problems through software engineering, data science, and artificial intelligence. Since beginning my academic journey, I have immersed myself in mathematics, data analysis, and programming—steadily evolving from a curious learner into an aspiring full stack developer and backend engineer committed to innovation and impact.

In 2023, I began pursuing software engineering independently, teaching myself web development and backend principles. This effort was further fueled by mentorship from senior developers on LinkedIn and GitHub in 2024, who guided me through best practices in clean code, scalable design, and real-world application development. These experiences laid a solid foundation that I continue to build upon through both professional and community-based projects.

In my first year of university, I excelled academically and earned First Class Honours, driven by a strong foundation in mathematics and analytical thinking. In my second year, while my grades dipped slightly to Second Upper, this shift reflected my intense engagement in self-learning software engineering, coding principles, and data science. I was deeply focused on understanding backend systems, real-world applications, and AI fundamentals through hands-on practical projects—an effort that demanded significant time and intellectual investment beyond my core coursework. Now that I have acquired substantial technical knowledge and a robust project portfolio, I am committed to balancing academic excellence with innovation and am fully focused on excelling in the remaining years of my program.

Currently, I serve as a Backend and Data Engineering Intern at Upnxy Innovative Solutions in India (remote), where I collaborate across frontend, backend, and data teams. My responsibilities include developing RESTful APIs using Django and Python, integrating complex features such as user authentication, authorization, WebSocket communication, and payment gateways. I also support the frontend team in implementing these APIs using React and JavaScript. Through this experience, I've gained valuable exposure to PostgreSQL databases and production-level codebases.

Beyond my internship, I am highly active in the open-source community on GitHub, where I contribute to collaborative software projects and use GitHub Actions for CI/CD automation. I frequently share insights and connect with like-minded developers on LinkedIn, while my personal portfolio website showcases over 50 repositories and live project demos. My core tech stack includes Python, JavaScript, TypeScript, Django REST Framework, Node.js, React, Next.js, Tailwind CSS, and PostgreSQL.

In data science, I have developed skills in data scraping, automation, and visualization using tools like NumPy, Beautiful Soup, Pandas, Matplotlib, TensorFlow and Selenium. I am especially fascinated by the rapid evolution of artificial intelligence and the real-world impact of Large Language Models (LLMs). My ambition is to stay at the forefront of AI adoption by joining university AI clubs, engaging in discussions about its societal and technological implications, and building AI-powered products that respond to modern challenges.

My goal is to combine my skills in software engineering, data science, and AI to create a product that will one day help advance medical research and save lives. I envision developing tools that leverage speech recognition, natural language understanding, image analysis, and intelligent research assistants to support healthcare professionals and researchers in discovering life-saving solutions. I want to be a contributor to a future where AI doesn't just transform industries but actively improves human well-being.

Another issue that has profoundly affected me is the exploitation of children, teenagers through social media platforms. In a world where global birth rates are steadily declining, the loss of an only child is especially devastating. I remember a heartbreaking news story about a mother whose only child died by suicide after being sexually abused online. Her silent grief during a public statement brought me to tears and left a deep emotional imprint. That moment made me question how we, as future technologists, can do better. We are not just responsible for innovation—we are responsible for

protection. I am determined to contribute to building software systems and monitoring tools that help safeguard children and ensure safer digital environments for the next generation.

While I am proud of my technical progress, it hasn't always been easy. There were many nights I spent debugging code with limited access to resources—sometimes borrowing internet access or staying late at school labs just to finish a project. But every obstacle strengthened my problem-solving ability and passion for learning. These moments taught me that grit and perseverance often matter more than perfect conditions and that a deep sense of purpose can carry you far. I bring this same determination to every team I join and every opportunity I pursue.

The rapid rise of AI—from Narrow AI (ANI) to the potential of General AI (AGI) and Superintelligence (ASI)—has left many young students uncertain about the future of their careers. I have seen this uncertainty among my peers, and I chose not to let it paralyze us. Instead, I acted. Using my experience in the field, I built a supportive, forward-thinking network for young talented students and future data scientists, software and AI engineers across Discord, LinkedIn, and my university. Through mentorship, hands-on resources, and community engagement, I help others navigate the AI landscape and view it not with fear, but with purpose. My mission is not only to grow technically, but to cultivate a positive and adaptable mindset—one that embraces change as a path to leadership and impact. I am excited to bring this same spirit of service and collaboration to your institution by working with student organizations, sharing knowledge, and helping others approach AI with both confidence and responsibility.

Despite significant financial hardship, I believe that with the right support, I can thrive and give so much more back. At home, my grandmother our guardian cares for both me and my sister, who is currently in medical school. Without stable support, meeting daily needs and continuing my education remains a constant struggle. That is why I humbly seek this opportunity. Receiving funding would not only be a deep honor, but also a powerful motivation for my personal growth and wider community impact. I am committed to bringing the spirit of innovation into school's labs, clubs, and communities uplifting others who, like me, dream of building a better future through technology.

Though my academic environment has limited resources, I remain focused on growth. Joining your institution would give me the opportunity to access advanced research facilities, collaborate in AI labs, and contribute meaningfully to global technology solutions.

This application is not just a request for admission—it is an invitation to join a mission. I am ready to contribute, learn, and grow as both a student and a builder of tomorrow's technology.

Thank you for considering my application.

Sincerely,
Emmanuel Makau
GitHub **|** ***LinkedIn*** **|** ***Portfolio***