**Statement of Purpose**

I am Lavu Mweemba, a 28-year-old ICT professional from Ndola, Zambia. With a Bachelor's degree in Information and Communication Technology with Education from Copperbelt University, I have spent the last four years working in software development, quality assurance, and AI applications. I am applying to the Master of Science in Applied Computing at the University of Saskatchewan because it matches my passion for building practical tech solutions that solve real-world problems. This thesis-based program will help me deepen my skills in AI-driven IoT systems and machine learning, areas I have explored in my career and studies.

My academic journey started at Copperbelt University, where I earned my BSc in June 2020 and graduated with credit in April 2021. During my final year, I focused on courses like Data Structures, Algorithms, Databases, and Networking, which built a strong foundation in computing. For my thesis, titled "Design and Implementation of Raspberry Pi-Based Aqua Monitoring System," I created an IoT device using Python and sensors to track water quality in fish farms. This project showed me how embedded systems can improve agriculture in places like Zambia, where farming faces challenges from climate and resources. It sparked my interest in predictive analytics and how AI can make systems smarter for industrial use. I graduated with clear passes across my modules, including high marks in software engineering and web programming, which prepared me to apply theory in real projects.

After university, I jumped into professional work that tested and grew my skills. As Lead Software Developer at Zambia University College of Technology, I headed teams to build a student management system, integrate Moodle for online learning, redesign the university website, and develop internal HR and library tools. We used PHP and JavaScript for data modules, and I set up CI/CD pipelines with Git and Docker that cut deployment time by 89%. This role taught me project management and how to handle large-scale software under tight deadlines. Before that, at FLOCASH Limited as a Quality Assurance Engineer, I tested FinTech apps for security and user experience. I automated tests with Selenium, boosting coverage to 90%, and analyzed customer data to fix issues faster. Most recently, as a Developer at Northrise University, I researched AI for three projects, working with AWS datasets using Node.js and ETL processes. These experiences, plus my time as a Teaching Assistant at Copperbelt University in 2020 and ICT Lab Technician at Zambia University College from 2023 to 2024, have given me over four years in the field. I also hold membership in the Information and Communications Technology Association of Zambia (ICTAZ), where I attended conferences and the 16th annual general meeting to stay updated on trends.

What draws me to the MSc in Applied Computing is its focus on linking computer science with real applications, like IoT, artificial intelligence, and machine learning—exactly my research interests. At USask, I want to explore predictive analytics for industrial automation and AI in data-heavy environments, building on my aqua monitoring project. The program's research areas, such as Internet of Things, Machine Learning, and Human-Computer Interaction, align perfectly with faculty experts in deep learning and software engineering. I am excited about the thesis option, which will let me work closely with supervisors on cutting-edge topics, perhaps in bioinformatics or cloud computing. The 20-month duration and funding opportunities, like NSERC scholarships, make it ideal for someone like me aiming to conduct meaningful research without delays. USask stands out for its world-class facilities and commitment to solving global issues with local impact, which resonates with my Zambian roots and desire to innovate for developing economies.

In the future, I see myself returning to Zambia as a tech leader, maybe starting a firm that uses AI-IoT for sustainable farming or education tech. This degree will equip me with advanced tools to create solutions for industries here, where tech adoption is growing but needs more expertise. It will also open doors to PhD studies if I choose academia, or roles in global firms with in-house R&D. As a member of ICTAZ and with my Duolingo English score of 120 (B2 level), I am ready to thrive in Canada's diverse academic setting.

I look forward to bringing my hands-on experience to USask and contributing to its vibrant community. Thank you for considering my application.

Sincerely,

Lavu Mweemba