Joseph Muriu Matoya

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EDUCATION

St Paul, Minnesota **Metropolitan State University** Dec 2025

Major: Computer Science BSc

Programming Coursework: Data Structure & Algorithm, Operating Systems, Database Management- Systems, Object Oriented Programming, Game Programming, Organization of Computer Systems

Cybersecurity Coursework: Computer Security

TECHNICAL SKILLS

Programming Languages: (*Proficient*): Python, Java, SQL, Unix, JavaScript, HTML/CSS, Bootstrap, React (*familiar)*: C++, C, PowerShell, MIPS Assembly Language

Cloud Platforms: Amazon Web Services (AWS), Microsoft Azure, Google Cloud

Software & Productivity Tools: OpenAI ChatGPT, Microsoft Office Suite (Excel, Word, PowerPoint), Outlook, Microsoft Teams

PROJECTS

Student and Employee Organization System

- Developed an Object-Oriented Java application to automate categorization of 1,000+ students and employees, reducing manual classification time by 50%.
- Engineered a unique ID assignment feature for students, improving data tracking and retrieval efficiency by 40%.
- Conducted in-depth research into data encryption and role-based access controls, enhancing system security and operational efficiency by 30%.
- Designed an intuitive, user-friendly interface with role-based access controls, increasing system security and user satisfaction by 30%.
- Enabled dynamic updates to seamlessly adapt to changes in enrollment and employee roles, maintaining 100% accuracy in role classification.
- Integrated with existing databases, streamlining organizational processes and boosting operational efficiency by 25%.
- Maintained detailed project documentation throughout the development process to ensure accuracy and facilitate seamless collaboration.

Computer Systems Project

- Developed and optimized assembly code using MIPS architecture to solve complex computational problems, reducing execution time by 15% through code optimization and efficient memory management.
- Analyzed CPU instruction cycles, register usage, and memory management, improving performance by 10% by identifying bottlenecks and optimizing instruction flow.
- Applied pipelining and instruction-level parallelism to enhance algorithm efficiency, leading to a 20% increase in processing speed for specific tasks.
- Debugged and tested code using simulation tools, achieving 100% accuracy in executing arithmetic and logical operations, and reducing bugs by 25% through rigorous testing.

File Organization Project

- Developed a Python script to automate the organization of a randomly ordered file, ensuring proper sorting based on specific criteria (alphanumeric, date, or size).
- Leveraged Linux command-line tools to preprocess and manipulate file data, improving processing efficiency by 30%.
- Integrated error handling and logging mechanisms to ensure smooth execution, reducing errors during file manipulation by 25%.
- Optimized runtime performance by utilizing Python's built-in sorting functions and memory-efficient data structures, decreasing execution time by 40%.

Cloud Infrastructure Project – Amazon Web Services (AWS)

- Architected and deployed a cloud-based infrastructure using Amazon Web Services (AWS) to run multiple virtual machines.
- Configured and managed EC2 instances, ensuring high availability and scalability for various workloads.
- Implemented security protocols, including Virtual Private Cloud (VPC) and IAM roles, to secure the virtual environment.
- Utilized AWS management tools to monitor performance and optimize resource allocation, reducing costs by 20%.

COMPUTER SCIENCE CLUB

Hackathon Achievement: Collaborated in a hackathon hosted by Immersion Data Solutions to develop an open-source solution for creating accessible 3D tiles from GLTF models while contributing to discussions on securing data during transmission and rendering.

- Reduced rendering costs by 30% and processing time by 25%.
- Utilized technologies such as React, Deck.gl, Tile3DLayer, Mapbox-react-map-gl, and gltf-to-3d-tiles.
- Delivered high-quality, cost-effective 3D assets designed for accessibility and efficiency.
- Contributed to security discussions regarding encryption and data integrity during tile transmission and rendering processes.

CERTIFICATIONS & PROFESSIONAL DEVELOPMENT

- Coursera Certificate in Web Development (Meta)