James Muguiyi

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Education

University of Rochester Dec 2024 | Rochester, NY

B.A. in Computer Science, Minor in Psychology

Courses: Data Structures and Algorithms, Mobile development (Android), Web Development, Introduction to Artificial Intelligence, Computational History and Limitations.

Skills

Languages
Python, C++, C#, JavaScript/TypeScript, HTML/CSS, MySQL

Frameworks
React, Node.js, Next.js, Express, Flask, Tailwind

Tools
MongoDB, DynamoDB, Firebase, Postgres, Git, AWS

Professional Experience

iD Tech Dec 2023 – present | Remote

Online Instructor

- Deliver immersive online educational experiences in Python, JavaScript and C++ in group and individual settings, adapting and implementing specialized curriculum to align with each student's goals and interests.
- Facilitating punctual lessons, providing essential technical support for video conferencing, software, and hardware setup to optimize the virtual learning environment.

Local Company (Acting Globally) Sep 2023 – present | Remote

Web Developer Intern

- Collaborated with a team of four developers to create innovative tools for volunteers and grassroots organizations
- Aided in the design of user-centric features that enhanced collaboration, leading to improvements in communication efficiency and an increase in resource sharing among users.
- Engineered a back-end system using MongoDB that optimized data maintenance and retrieval processes, achieving a **35% faster data retrieval** and update rate across three MongoDB databases.

University of Rochester Oct 2022 – present | Rochester, NY

Web Developer

- Updated the University IT's student-built logistics web app, LASSO, using React and Node.js and Express, integrating new design elements and functionalities, resulting in almost **50% less complaints**, bugs and other user reported issues.
- Spearheaded the integration of Google's Sign-in and Calendar APIs, empowering students and staff to effortlessly sync their schedules with personal calendars. Resulted in a **26% reduction in scheduling conflicts** and improved overall time management efficiency.

SEO Career Jun 2022 – May 2023 | Remote

Tech Developer Intern and SEO EDGE Participant

- Participated in a long-term career preparation and mentorship program to develop technical and career skills.
- **Completed 300+ hours of technology-focused training** on software development, databases, testing, and implementation.
- Designed web applications using **Python, HTML, CSS, and MySQL**.

University of Rochester May 2021 – present | Rochester, NY

IT Consultant

- Collaborated with clients to resolve software installation issues, network connectivity problems, and hardware complications, achieving a **90% issue resolution rate**.
- **Assisted 30+ professors and presenters** in transitioning to virtual environments, classes, and events, resulting in increases in digital proficiency and a reduction in technical difficulties experienced during sessions.
- **Successfully moderated 100+ online lectures** and invigilated exams for students globally, maintaining academic integrity rate and enhancing the overall online learning experience.

Projects

American Sign Language Reader

Libraries: OpenCV, MediaPipe, Numpy, CVZone

- Engineered a Python application integrating OpenCV and MediaPipe for real-time sign language recognition from video streams.
- Utilized Google's Teachable Machine for machine learning model training to accurately identify ASL alphabet signs.
- Implemented image capturing and processing for sign analysis, with a focus on enhancing recognition accuracy.

Face Recognition Attendance Tracker

Libraries: Pickle, Face-recognition, CVZone, Firebase, Numpy

- Developed a facial recognition system for attendance tracking using Python, OpenCV, and Firebase.
- Integrated real-time facial recognition with database verification to log attendance accurately.
- Enhanced data efficiency and processing speed through advanced image encoding techniques.

Hand Volume Control

Libraries: OpenCV, MediaPipe, ComTypes, Numpy

- Programmed a Python-based hand gesture recognition system using OpenCV and MediaPipe for interactive volume control.
- Applied advanced algorithms for real-time hand tracking and distance measurement between thumb and index finger.
- Integrated the system with PC volume controls, displaying live feedback on volume levels and finger spacing.