

Mouhamed Mbengue

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A motivated and versatile Computer Science student with a strong foundation in mathematics, logic, and programming. Experienced in full stack development, AI/ML implementation and creating scalable software solutions. Eager to utilize technical skills and problem-solving to profound projects.

EDUCATION

University Of Rochester | Rochester, NY

MAY 2026

Bachelor Of Science, Computer Science

Relevant Courses: Data Structures & Algorithms, Data Mining, Discrete Mathematics, Linear Algebra, Calculus I, Calculus II, and III.

TECHNICAL SKILLS

Languages & Technologies: Java, C, JavaScript, CSS, PHP, Markup, React, React-Native, Git, Python, Jupyter, Azure, and MongoDB.

Operating Systems: Windows XP/Vista/7/8/10/11 and macOS.

EXPERIENCE

Karpool

MAY 2024 – AUGUST 2024

Software Engineer Intern

Cape Town, South Africa

- **Designed and implemented** a user settings interface in React-Native, integrating seamlessly with microservice APIs and enabling real-time user preference syncing across devices using secure backend services and token-based authentication.
- Developed scalable serverless functions using Node.js and Azure Functions, enhancing backend resilience, observability (via Azure Monitor), and system fault tolerance with advanced error recovery workflows and fallback triggers.
- **Reduced user-reported issues by 25%** and **boosted app performance by 15%** through end-to-end optimization of API payloads, caching strategies, and database access patterns across critical microservices and supporting internal tooling.
- Developed key features to **improve user experience and interface**, such as implementing a **Report User** function to flag inappropriate behavior. Additionally, **improving user satisfaction through multiple implementations**.
- Created secure file upload functionality, handling over 1,000 file uploads weekly, with zero reported data breaches.

BM Prime Capital

JANUARY 2024 – APRIL 2024

Software Engineer Intern

Remote

- **Increased efficiency by 15%** across five major projects utilizing PHP, JavaScript, ReactJS, and TypeScript, reducing project timelines. Streamlined development processes by **introducing reusable components** and optimizing code structure.
- Led the **integration of 10+ APIs**, ensuring seamless data flow and **reducing data transfer errors by 25%**, while optimizing request handling. Additionally, **improved client-side performance by 20%** through **efficient API calls** and reduced latency.
- Enhanced CMS database retrieval, notably improving data quality and accessibility, **leading to a 10% increase in user interaction**.
- **Implemented caching systems** to **optimize query speeds** which resulted in reduced load times and enhanced application responsiveness. Fully resulting in a more seamless, efficient, and **scalable user experience**.
- **Collaborated in a dynamic team environment**, quickly adapting to evolving requirements and challenges, which contributed to the **successful completion of three major project milestones ahead of schedule**, ensuring high-quality deliverables.

PROJECTS

AI-Driven Sports Application | <https://github.com/mbengue1/project-neptune> Python | TypeScript | JavaScript | React | Kubernetes | AWS

- Developed a **scalable, AI-driven sports betting platform** using **hybrid microservice's** architecture with **Docker & Kubernetes**.
- Built core services including the **Betting Engine** (odds updates, bet placement), **AI/ML Service** (predictive analytics, personalized recommendations), and **Payment Service** (Stripe integration, transaction management).

AI-Powered Incident Response System | <https://github.com/mbengue1/ai-incident-response-system> Node.js | Redis | PostgreSQL | OpenAI

- Engineered a **real-time, AI-assisted incident management platform** simulating enterprise grade SRE tools like Prometheus.
- Built **backend services** for **ingesting alerts**, **classifying incidents via GPT-3.5**, and **dispatching Slack/email notifications** using **Redis queues** and **OpenAI APIs**

Full Stack SWE Blog App | <https://github.com/mbengue1/SWEBlogApplication> Node.js | Express.js | JavaScript | React | MongoDB

- Created a **Software Engineering blog platform** using the **MERN stack**, allowing users to create, manage, and view blogs with features like **user authentication** and **category filtering**. Implemented **responsive design** principles for seamless accessibility across devices.
- Utilized **Node.js** and **Express.js**, **MongoDB** for the database, **Cloudinary** for file storage, and **JWT** for authentication.

U.S. Citizen | Available Summer 2026