

Mouhamed Mbengue

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A motivated Computer Science student with a strong foundation in mathematics, logic, and programming. Experienced in full-stack development, AI/ML, and creating scalable software solutions. Eager to apply technical skills and problem-solving to impactful 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, PHP, React, React-Native, Git, Python, Jupyter, Azure, MongoDB, Windows, 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 New York, NY

- 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.

UR Men's Club Basketball JANUARY 2025 – PRESENT

Vice President Rochester, New York

- Led Operations for 20+ club members, coordinating travel, practices, and game schedules to optimize performance and attendance.
- Spearheaded communications, increasing student engagement and game turnout by 30% through email and social media outreach.
- Managed budget planning and equipment procurement, ensuring resource availability and fiscal responsibility for all club activities.
- Organized inter-university scrimmages and community outreach events, enhancing club visibility and fostering partnerships.

PROJECTS

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

- Developed a scalable, AI-driven sports betting platform using a hybrid microservice 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).

Premier League Player Role Discovery | <https://github.com/mbengue1/pl-role-discovery> Python | scikit-learn | Streamlit | Plotly | SQL

- Applied unsupervised learning (PCA + K-Means/GMM) to cluster 600+ Premier League players into 8 data-driven roles, improving interpretability of player performance while demonstrating advanced feature engineering and model validation.
- Built and deployed an interactive Streamlit dashboard with radar charts, PCA/UMAP scatter plots, and player similarity search, enabling intuitive role exploration for technical and non-technical users, making complex data accessible at a glance.

U.S. Citizen | Available Summer 2026