

Francis Mungai

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Summary

Full-stack developer with hands-on experience building responsive front-ends and scalable back-end systems from concept to deployment. Proven ability to enhance API performance, reduce deployment times, and ship high-quality mobile/web products. Expertise in client-side and server-side development, cloud architecture, and containerization, focusing on delivering reliable, scalable, and maintainable solutions.

Education

University of South Dakota, Vermillion, SD Jan 2026 – Present
MS in Artificial Intelligence
Case Western Reserve University, Cleveland, OH Aug 2020 – Dec 2024
BS in Computer Science
Relevant Coursework: Data Structures, Databases, Machine Learning, Web Development, Software Craftsmanship

Experience

Research Assistant, University of South Dakota AI Research Lab Mar 2026 – May 2026

- Researched an experimental end-to-end pipeline to extract complex tabular structures from PDFs and map them directly into dense vector embeddings, evaluating and synthesizing architectures like DINO, TabNet, TabTransformer, and SAINT.
- Maintained the AI Research Lab’s web platform using Svelte and Supabase, conducting extensive performance benchmarking against Vanilla JavaScript implementations to minimize framework overhead and optimize load times.

Full-stack Developer, MedVic Sep 2024 – Jan 2026

- Built a mobile-first hospital shifts and volunteering platform with Expo React Native and React.
- Developed Supabase and PostgreSQL backend infrastructure, reducing average query latency from 200ms to 100ms.
- Implemented caching and booking safeguards, doubling API throughput and preventing shift-claim conflicts under load.
- Automated schema deployments with GitHub Actions and improved monitoring, reducing deployment time by 40% and MTTR by 50%.

Full-stack Developer, Tu-Fund May 2023 – May 2025

- Led frontend development with Next.js and Tailwind CSS, translating Figma designs into responsive, accessible interfaces.
- Integrated Stripe payments and automated disbursements in compliance with PCI standards.
- Built backend services on AWS, maintaining 99.9% uptime for donation and talent modules.
- Automated EC2 deployments with GitHub Actions and optimized traffic management with PM2 and NGINX, improving capacity by 30% and cutting deployment time by 35%.

Projects

Macoins (Agentic Trading Platform) Macoins GitHub Repository

- Built a multi-agent AI trading platform with FastAPI and WebSockets, featuring a provider-agnostic router for cloud and local LLMs.
- Engineered an adversarial framework where parallel AI agents analyze market data and debate to produce consensus-driven trade verdicts.
- Automated paper trading via the Alpaca API and APScheduler, streaming real-time agent reasoning to a Vanilla JS frontend.

Skills

Frontend: React, Next.js, Expo React Native, Tailwind CSS
Backend: Node.js, PostgreSQL, MongoDB, AWS, REST APIs
DevOps: GitHub Actions, Docker, NGINX, PM2, AWS (EC2, S3, DynamoDB)
Languages: Rust, Python, SQL, Java