

Nathaniel Davis

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EXPERIENCE

Software Engineer Intern

June 2024 – July 2024

U.S. Embassy

Addis Ababa, ET

- Managed IT infrastructure including imaging 40+ computers and maintaining 200+ systems with networking and remote machine maintenance
- Developed QR inventory management system for CLO office using React, Firestore, and image storage with tagging functionality for box-to-item tracking
- Built web applications using HTML and React with native mobile QR scanning integration and incremental ID-based item organization

Freelance Web Developer

Sep. 2023 – Present

Briggs Davis

Various Locations

- Deliver web solutions for 8+ clients including nonprofits using Next.js, Vite, WordPress, and cPanel with focus on donation systems and membership management
- Integrated Ethiopian payment APIs (Chapa, EthioTelecom) and built Supabase backends with row-level security for e-commerce platforms including jewelry inventory systems
- Developed complex business applications including construction span/weight/thickness calculator with real-time cost and efficiency optimization features

PROJECTS

Oderum | *Next.js, Drizzle, PostgreSQL, Stripe*

June 2024 – Present

- Implemented machine learning recommendation system using sentence-transformers and OpenAI embeddings with cosine similarity search across 300+ fragrances and notes
- Engineered training pipeline through web scraping to generate 1000+ similarity/dissimilarity pairs for model fine-tuning and improved recommendation accuracy
- Built full-stack application with Next.js and PostgreSQL supporting user reviews, fragrance lists, and real-time recommendations using vector search algorithms

Jazzio | *React, Tailwind, Firebase*

Jan 2025 – Feb 2025

- Developed bilingual membership platform for US Embassy Addis Ababa supporting 20,000+ members with English/Amharic registration forms and Ethiopian calendar integration
- Reduced staffing requirements by 30% and processing time by 25% through QR-based verification system with real-time analytics tracking gender and retention metrics
- Implemented custom form validation using regex, Zod, and Firebase backend to handle Amharic text input and dual-language database architecture

Shrine | *Rust*

Dec 2024 – Jan 2025

- Built high-performance chess engine in Rust using bitboard representation (u64) with minimax algorithm achieving 12-move search depth
- Optimized performance through transposition tables, alpha-beta pruning, killer move heuristics, and move ordering for enhanced decision-making speed
- Engineered bit manipulation algorithms for move generation, capture detection, and board state transitions using custom struct methods

SKILLS

Languages: TypeScript, Python, Rust, Java, SQL, HTML/CSS

Frameworks: React, Svelte, Next.js, Remix, PyTorch, Stripe, FastAPI

Databases: PostgreSQL, SQLite, MongoDB, Redis, Pinecone

Providers: AWS, GCP, Azure, Vercel, Netlify, Firebase, Supabase, Cloudflare

Miscellaneous: Git, Playwright, Linux, Jest, WebAssembly, Unity, Unreal

EDUCATION

International Community School of Addis Ababa

Addis Ababa, ET

International Baccalaureate: Higher Level Computer Science, Mathematics, and Business

Aug. 2021 – May 2024