

Colin Stroble

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SUMMARY

Software engineer with hands-on experience building and deploying full-stack applications, secure backend systems, and cloud infrastructure. I've developed everything from high-performance Rust microservices to scalable web platforms using modern frameworks like Next.js and Svelte, handling projects end-to-end from architecture to production. Comfortable working across the stack, with a strong focus on performance, security, and real-world problem solving, including distributed systems and AI-powered applications.

EDUCATION

University of Central Florida

Aug 2022 - May 2027

Computer Engineering

- **GPA:** 3.0
- **Coursework:** Calculus 1-3, Discrete, CS 1-2, Operating Systems, Processes of Object Oriented Software Engineering

EXPERIENCE

Moneybot LLC

Jan 2020 - Jan 2024

Independent Software Contractor

Remote

Engineered and deployed full-stack, secure web applications, managing the entire project lifecycle from architecture to deployment and integrating DevOps best practices.

- Managed cloud infrastructure on a VPS by provisioning Ubuntu servers, configuring Nginx as a reverse proxy, and automating CI/CD pipelines with GitHub Actions to achieve zero-downtime deployments while maintaining cost efficiency.
- Designed and implemented a high-performance e-commerce marketplace using Next.js, Tailwind CSS, and MySQL, including the development of a custom secure payment processing system for cryptocurrency transactions.
- Developed a secure file-hosting microservice in Rust to handle 500+ concurrent users, incorporating robust security protocols with mTLS, AES-256 encryption, JWT authentication, and SHA-256 hash verification to ensure data integrity.

PROJECTS

Retrieval-Augmented Generation (RAG) Catalog Assistant - UCF Course Catalog

- Built a retrieval-augmented generation (RAG) system in Python that answers UCF course catalog questions by combining Sentence-BERT embeddings, FAISS vector search, and GPT-4o mini for grounded response generation.
- Developed a preprocessing pipeline to collect, chunk, and structure catalog data by document type, preserving important features for retrieval.
- Improved answer quality for complex multi-part questions through query decomposition, sub-query retrieval, and Recall@k evaluation against a zero-shot LLM baseline.

Distributed Server Monitoring Platform

Lynx

- Engineered a secure and modular monitoring system to collect, transmit, and visualize metrics for several systems.
- Developed a multi-threaded Rust agent with a modular collector system to send metrics using gRPC and secured all communications with mTLS.
- Built a Rust-based core to ingest and process metrics from the agents, storing them in a Timescale PostgreSQL database optimized for time-series data.
- Designed and implemented a Svelte web-application providing a single dashboard to monitor the system health and send real-time commands across distributed agents.

TECHNICAL SKILLS

- **Programming Languages:** C, Python, Java, Rust, SQL, JavaScript, TypeScript, HTML
- **Back-End Development:** Node.js, Express.js, REST APIs, gRPC, Websockets, TLS/SSL
- **Front-End Development:** React, Next.js, Svelte, SvelteKit, TailwindCSS
- **Databases & Storage:** PostgreSQL, MySQL, TimescaleDB (time-series), AWS S3
- **Infrastructure & DevOps:** Docker, Git, Github Actions (CI/CD), Nginx, Linux/Bash, Cloud Deployment (Linode, Vultr), Firewall Configuration (UFW/iptables), Cloudflare, AWS
- **Computer Science Fundamentals:** Data Structures, Networking