Michael Rodriguez

Software Engineer

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SUMMARY

A performance-oriented Software Engineer with 3 years of experience, specializing in building high-performance, memory-safe backend services with Rust. Passionate about systems programming, concurrency, and leveraging Rust's unique features to build exceptionally fast and reliable software.

STRENGTHS

Rust Programming: Deep proficiency in Rust, including its ownership model, concurrency primitives, and ecosystem (Cargo, Tokio, Serde).

Performance Optimization: A strong focus on writing highly performant code, with experience in benchmarking, profiling, and optimizing critical code paths.

Memory Safety: Leverages Rust's compiler guarantees to eliminate entire classes of bugs related to memory safety, resulting in highly reliable applications.

Systems-Level Thinking: Enjoys working close to the metal and solving complex systems-level problems.

TECHNICAL SKILLS

Languages: Rust, Python, C++, SQL

Frameworks & Libraries: Tokio, Actix-web, Serde, Diesel

Databases: PostgreSQL, ScyllaDB

Tools & Methodologies: Git, Docker, CI/CD, Performance Benchmarking, Linux

PROFESSIONAL EXPERIENCE

Software Engineer | High-Frequency Systems | July 2022 - Present

- Develops and maintains performance-critical microservices in Rust for a real-time data processing system.

- Rewrote a key data processing service from Python to Rust, resulting in a 10x improvement in throughput and a significant reduction in memory usage.

- Implemented asynchronous APIs using the Tokio runtime, capable of handling thousands of concurrent connections.

- Wrote comprehensive unit and integration tests to ensure the correctness and reliability of the services.

- Actively contributes to the team's adoption of Rust, sharing knowledge and best practices.

PROJECTS

In-Memory Caching Server: Built a high-performance, in-memory caching server in Rust, similar to Redis. The project uses Tokio for asynchronous networking and features a custom hash map implementation for learning purposes. It demonstrates a strong grasp of Rust and systems programming.

EDUCATION

Bachelor of Science in Computer Engineering | Carnegie Mellon University | 2018 - 2022