

SAMWUEL SIMIYU

Rust Systems Developer

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PROFESSIONAL SUMMARY

Detail-oriented Rust Systems Developer with expertise in building high-performance, low-latency concurrent systems. Specialized in network programming, DNS architecture, and secure API development. Demonstrated ability to optimize system performance, implement secure communications protocols, and design robust backend services with a focus on memory safety and concurrency.

TECHNICAL SKILLS

Languages: Rust, C, Python, JavaScript, TypeScript, Node.js, Django

Technologies: Tokio async runtime, TCP/IP, DNS protocols, HTTP servers, PostgreSQL, Redis, MongoDB

Expertise: Async programming, Multi-threading, Network protocols, Memory management, System optimization

Tools & Frameworks: Express.js, Actix-web, GitHub CI/CD, Docker, Cryptography

PROFESSIONAL EXPERIENCE

Systems Developer

Independent Projects | 2022 - Present

- Architected and developed ShujaaDNS, an ultra-light DNS stub resolver in Rust with 30% faster resolution times compared to standard resolvers
- Implemented radix trees and async design patterns to optimize query processing, reducing latency by 25%

- Engineered a high-performance HTTP server in Rust handling 10,000+ concurrent connections with minimal resource usage
- Designed and built a task scheduler leveraging Tokio's async runtime, improving system throughput by 40%
- Created a secure messaging library with end-to-end encryption and quantum-resistant algorithms

Backend Developer

Zetu Cart | 2021 - 2022

- Developed a full-stack e-commerce platform optimized for the Kenyan market using Node.js and MongoDB
 - Implemented secure authentication system with role-based access control protecting user data
 - Reduced API response times by 35% through database optimization and caching strategies
 - Collaborated with UI/UX team to create seamless checkout experience, increasing conversion rates by 20%
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KEY PROJECTS

ShujaaDNS

- **Technologies:** Rust, PostgreSQL, Redis
- **Description:** An ultra-light DNS stub resolver built from scratch to maximize speed, privacy, and parental control
- **Key Achievements:**
 - Implemented caching and pattern-based filtering for improved performance
 - Designed user/group rules and real-time query logging
 - Optimized using radix trees and async patterns for minimal latency
 - github.com/Trojan-254/proxy

Rusty HTTP Server

- **Technologies:** Rust, Tokio
- **Description:** Highly concurrent, low-latency HTTP server with HTTP/1.1 protocol compliance
- **Key Achievements:**
 - Engineered to handle numerous simultaneous client connections
 - Implemented efficient connection pooling and request handling
 - Reduced memory footprint by 30% compared to similar servers

- github.com/Trojan-254/HTTP-Server-in-Rust

Task Scheduler

- **Technologies:** Rust, Tokio async runtime
- **Description:** High-performance, event-driven task scheduling system
- **Key Achievements:**
 - Created a scalable and fault-tolerant framework for asynchronous tasks
 - Implemented work distribution across multiple worker threads
 - Achieved 95% CPU utilization during peak loads
 - github.com/Trojan-254/task-scheduler

Secure Messaging Library

- **Technologies:** Rust, Cryptography
 - **Description:** End-to-end encrypted messaging library with forward secrecy
 - **Key Achievements:**
 - Implemented quantum-resistant encryption algorithms
 - Designed secure key exchange protocols
 - Created audit logging system for security monitoring
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OPEN SOURCE CONTRIBUTIONS

HTeaPot HTTP Server

- Contributed performance improvements to HTTP server implementation
- Optimized request handling and reduced memory usage
- github.com/Az107/HTeaPot/pull/23

EasySockets TCP Messaging Protocol

- Fixed bug in async runtime scheduler
- Improved documentation and socket error handling
- github.com/Larmbs/easy-sockets-rs/pull/2

Actix-web

- Implemented new middleware features
 - Enhanced testing utilities for improved coverage
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EDUCATION

Certificate in Software Engineering

ALX Africa | 2023 - 2025