John Y. Rodgers

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Experience

Viasat San Diego, CA
Software Engineer August 2018 - November 2023

- Improved compliance with rigorous security standards in cross-virtual machine communications by designing and owning a **C++** library that managed **OpenSSL**-secured **DTLS** connections.
  - Prioritized developer convenience with argument-based configuration, allowing easy setup of encryption, timeout, SSL roles, and peer addresses, abstracting away complexities of the underlying implementation.
  - Enhanced connection stability by integrating multi-threading for heartbeat monitoring, facilitating automatic re-establishment of SSL connections as required for continuous operation.
  - Boosted efficiency and throughput by employing a multi-threaded approach to queue and send packets, optimizing network performance and data handling.
- Enabled fault diagnosis & system reliability with **C++** library that created files detailing recent activity from failed **Docker**/**Kubernetes** containers, enabling more precise troubleshooting and system insights.
  - Optimized log management using circular buffers for priority-based storage, implemented **multi-threading**, and established **IPC**-based communication to coordinate across multiple containers.
- Enhanced alerting and monitoring by developing data publishing microservice that streamed critical data from containers leveraging **gRPC** for transmission, **Fluent Bit** for filtering and enrichment, **Kafka** for publication.
  - Improved communication efficiency by developing a **C++** client library with auto-generated **gRPC** sources, simplifying client initialization, request creation, and stub method invocations.
  - Optimized data processing workflows using **Fluent Bit** for advanced filtering/enrichment, leading to efficient, content-based routing and improved data stream management with Stream Processor.
- Significantly reduced application suite build/test times by **>3 hours** through proposing, planning, and leading an intern project focused on process optimization and efficiency in a containerized build environment.
- Boosted team velocity by 25% over three-year tenure as a **Scrum Master** for 8-member development team, all while excelling in my primary role as a developer.
- Accelerated code review completions and development quality by revitalizing processes and training, fostering clear communication, faster issue resolution, and increased team knowledge.
- Lowered dependency on individual expertise by initiating peer education program, conducting needs assessments, mobilizing subject matter experts, and creating a comprehensive video knowledge base.
- **Deployed**, debugged and administered **Linux-based VMs** using **Jenkins** to develop, test, and deploy **Docker**/**Kubernetes** containers.
- Ensured rapid issue resolution and system reliability through critical **on-call technical support**, demonstrating a deep understanding of system architecture and cross-team product integration.
- Deep intellectual curiosity and passion about learning through **methodical study**, **organized note-taking** using **Zettelkasten** method, systematic reviews using **spaced repetition flashcards**.

Viasat San Diego, CA
Software Engineer Intern June 2017 - August 2017

- Collaborated with an interdisciplinary team to consolidate multiple hardware testing tools into a single server rack, automating modem testing processes.

United States Navy
Information Systems Technician 2007 - 2012

- Configured, maintained, and monitored ship-wide **local-area network** including **servers**, **firewalls**, **routers**, and **switches**.

Education

University of California San Diego
BS in Computer Science