Shaun Reed

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C | C++ | Bash | Linux | Rust | Qt | QML | Docker | CMake | Git | GDB | Python | Ansible | NGINX | UE5 | Unity | Valgrind | Heaptrack | Grafana | Go | Kubernetes | C# | OpenGL | ESP32 | CI/CD Pipelines (GitHub / GitLab)

OBJECTIVE

Seeking a mid-level software engineering position to apply and grow my development skills. I'm comfortable working on distributed teams and contributing to large codebases in a number of programming languages.

WORK EXPERIENCE

TileDB, Senior Software Engineer

Cambridge, MA

JAN 2025 - PRESENT

➔ Convert C++ core library code to Rust as part of a team effort to bring increased performance and reliability to the TileDB core library and the services that depend on it
➔ Debug issues running large genomics queries with 40+ nodes in distributed taskgraph execution systems using k9s and custom docker images created for troubleshooting
➔ Reduce backend server thread counts from 35,000 to 3,000 without negatively impacting our SLOs, enabling onboarding of larger customer datasets
➔ Debug API interoperability issues by stepping from higher level APIs in Go, C#, Python, and Java into the TileDB core C and C++ APIs using GDB, identifying root causes at the memory, schema, and serialization levels

TileDB, Software Engineer

Cambridge, MA

JUN 2022 - JAN 2025

➔ Design and implement the integration of WebP support into TileDB format, securing the company a new customer contract
➔ Resolve out-of-memory errors for production REST servers, improving the reliability of our services for our customers
➔ Investigate core dumps with GDB to debug and resolve segmentation faults in production and minimize service outages from failed customer queries on the impacted pod
➔ Increase stability of REST service by introducing CI workflows for testing TileDB core changes against cloud catching several issues before releasing to production
➔ Provide feedback and review for PRs using a range of programming languages in collaboration with a global team in various time zones and nationalities

PERSONAL PROJECTS

Qtk

github.com/shaunrd0/qtk

➔ CI / CD packaging for a Qt Widget C++ application using CPack on Windows, Linux, and Mac
➔ Implementing Qt Designer plugins to create custom widgets usable within designer
➔ Using CMake to create a shared library for Windows, Linux, and Mac usable with find_package
➔ Loading 3D model data using Assimp and rendering using low-level OpenGL APIs
➔ GLSL shaders for techniques such as specular, phong, normal mapping and cube mapping

Clide

github.com/shaunrd0/clide

➔ Command line driven text editor written in Rust with headless TUI and desktop GUI modes
➔ Headless TUI created with the ratatui crate with file explorer used to open / close multiple vim emulator tabs
➔ Desktop GUI created using QML through the cxx-qt Rust crate
➔ Building CXX bridges for Rust / C++ interoperability to access specific Qt C++ APIs

Education

Kent State University North Canton, Ohio

- BS Computer Science *AUG 2018 - MAY 2022*