

Michael Loudon

Software Engineer —

Native Apps & Data Transformation Tools

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SUMMARY

Self-directed software developer with extensive experience building native desktop applications and data transformation tools, primarily in C, C++, Objective-C, and Swift across macOS and Windows. Experienced in reverse engineering, binary patching, and the long-term maintenance and porting of large legacy codebases, with open-source contributions to widely used projects. Now moving into software engineering full-time from a finance career in which I designed and built software that automated and accelerated daily business operations.

TECHNICAL SKILLS

Languages: C, C++, Objective-C, Swift, Python, JavaScript, VBA

Platforms: macOS, Windows

Tools: Xcode, Visual Studio and VS Code, LLVM, Git, Bash, IDA, MediaWiki

Specialties: Native and cross-platform desktop development, reverse engineering & binary patching (Mac, Windows, MIPS32)

SELECTED PROJECTS

Kanabo C++ • 2026 • *Sole developer*

Created a C++ tool to parse and transform proprietary game engine data, enabling extraction, analysis, and automated workflows for conversion and modification of the data.

OniX C • 2021-present • *Lead developer*

Leading a maintenance port that keeps a 25-year-old game's C codebase building and running on modern Windows. Currently migrating the application to a 64-bit build ahead of a planned native macOS port written in Swift.

Zukai C • 2015 • *Sole developer*

Built multithreaded runtime networking system that added multiplayer functionality to a single-player game, requiring client/server communication, synchronization logic, and injection into a live process, with a sophisticated logging system.

Shiranui C/Obj-C/C++ • in development • *Sole developer*

Creating a cross-platform GUI framework for macOS and Windows, abstracting platform-specific rendering, input, windows, and application lifecycle behavior. Available for private demonstration.

Various command-line tools Shell

50+ open-source shell utilities for coding, file management, graphics, and web tasks, published under MIT/CC0.

OPEN-SOURCE & VOLUNTEER CONTRIBUTIONS

PCSX2 C++ • 2018

Contributed support for passing launch arguments to games within PCSX2, a widely used PlayStation 2 emulator, which involved disassembly of the PS2 BIOS, requiring an understanding of MIPS32 asm and system internals.

Oni C / Objective-C • 2010-2015, 2021-present

Long-time volunteer contributor to the commercially released action game Oni: fixed bugs across the game's C codebase, helped maintain the Intel Mac build under Feral Interactive as an unpaid volunteer, and led development of the most recent version of the community's Anniversary Edition mod installation framework.

PROFESSIONAL EXPERIENCE

Founder & Software Developer — Amethyst Software (self-employed) 2024-present

Building native desktop software and developer tooling full-time, including Kanabo, OniX, and Shiranui.

Office Manager — MRI Hotels, Charlotte, NC 2011-2024

- Wrote C program to convert time-clock export files into QuickBooks IIF format for automated payroll import.
- Built internal web application that collected payroll hours from five company locations for processing by central office.
- Automated the recurring accounts-receivable collections report in Excel/VBA, saving 3-4 hours of labor per week.
- Managed day-to-day office accounting operations across a 13-year tenure with the company.

EDUCATION

Associate in Science, Accounting — Connecticut State Community College

Continuing education: ongoing self-directed study in modern C (C23) and C++ (C++20).