Alex Spaulding

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PROFESSIONAL SUMMARY

Systems Engineer specializing in macOS and iOS internals, reverse engineering, and runtime modifications. Architect of sophisticated, highly configurable cross-platform environments and widely-used customization tools. Dedicated to meticulous system-level craft that empowers power users and elevates the native desktop experience.

EDUCATION

Eastern Washington University, Spokane, WA *Mathematics Minor*
Bachelor of Science (BS) in Computer Science Expected May 2027
− **Relevant Coursework**: C and UNIX Programming, Computer Networks, Algorithms, Data Structures, Digital Circuits, Cybersecurity Fundamentals

PROFESSIONAL EXPERIENCE

Information Technology (IT) Specialist
Eastern Washington University, Cheney, WA Jun 2025 - Present
− Direct support for accounts, hardware, and network connectivity via phones, walk-ins, and Freshservice ticketing.

Manufacturing Technician
Sunburst Sensors, Missoula, MT Jan 2022 - Mar 2025
− Built autonomous pCO2/pH instruments; soldered precision PCBs and assembled 600+ custom battery packs and specialized cabling.

Information Technology (IT) Consultant
University of Montana IT Help Desk, Missoula, MT Sep 2020 - Oct 2020 | Oct 2024 - Jan 2025
− Resolved Tier I connectivity, account, and hardware issues for 20+ users/week and managed 600+ total TeamDynamix tickets.

PROJECTS

Apple Sharpener (210 ★) *GitHub*
macOS Window and Dock Customization 2024 - Present
− System-wide customization tool for macOS to adjust window and Dock corner radius.

Wawona (96 ★) *GitHub*
Native Wayland Compositor 2025 - Present
− Enables Linux desktop applications to run natively on macOS, iOS, and Android.

macwmfx (48 ★) *GitHub*
macOS Window Manager Effects 2025 - Present
− Enhances the macOS desktop by adding customizable visual effects to native window management.

.dotfiles (9 ★) *GitHub*
Universal System Configuration 2023 - Present
− Version-controlled suite of system configurations and automated setup scripts for development.

AltCore (8 ★) *GitHub*
macOS App Mod Framework 2025 - Present
− Architected a framework for full process replacement at launch, enabling seamless swapping of native macOS applications via runtime modifications.

aspauldingcode.com (1 ★) *GitHub*
Portfolio Environment 2024 - Present
− High-performance Next.js portfolio showcasing project efforts with optimized mobile navigation.

HIAHKernel (1 ★) *GitHub*
iOS Virtual Process Manager 2025 - Present
− Virtual iOS kernel enabling multi-app environments and POSIX process management (fork/exec) in one sandbox.

Whisperer *GitHub*
Apple Watch AI Voice Assistant 2023 - Present
− Sophisticated ChatGPT client with markdown support; engineered specifically as a high-performance, standalone Apple Watch application.

EXTRA CURRICULARS & AWARDS

MESA Member – Mathematics, Engineering, and Science Achievement 2025 – Present
1st Place – Gonzaga University Hackathon – DevOps Lead; CI/CD for "1v1me" via GitHub Actions & Cloud Run 2025
1st Place – UM Cyber Competition – CTF winner; network reconnaissance & server exploitation 2024

SKILLS

Languages: C, Objective-C, Rust, Swift, Kotlin, Java, Python, JavaScript/TypeScript, Nix, SQL
Low-Level & Systems: macOS/iOS Internals, Reverse Engineering (IDA, otool, frida), Code Injection (ZKSwizzle), Static/Dynamic Analysis, Mach-O, POSIX, XPC, GCD, IPC, Kernel/Runtime Mods, Method Swizzling
Graphics & UI: Metal, Wayland Protocols (cursor-shape, fractional-scale), Remote Rendering (CARenderer, CAContext), CoreGraphics, QuartzCore, AppKit, UIKit, SwiftUI, Jetpack Compose, watchOS, MathJax, Markdown
Infrastructure & Tools: Nix Flakes, Node.js, Next.js, React.js, Vue.js, XcodeGen, LLDB/Clang, GitHub Actions, Docker, UniFFI, Vercel, Git, Unix Shell

References available upon request.