

Julius Alexandre

(Looking for Compiler or Compiler-adjacent full time roles and/or Internship)

juliuswoosebert@gmail.com | github.com/wizardengineer | linkedin.com/in/julius-alexandre

EDUCATION

Western Governors University

Class of 2026

B.S. Computer Science

- Relevant coursework: Computer Architecture, Data Structures & Algorithms, Operating Systems, AI/ML

EXPERIENCE

Open Source Developer | LLVM | *C/C++, Rust, Python, Arm, RISC-V, x86*

Aug 2024 – Present

- Implemented SelectionDAG optimizations—reduced code size by 50% and boosted runtime performance by 20% across Rust, C++ & C.
- Provided improved efficiency on RISC-V, x86, and AArch64 architectures, boosting reliability and performance globally.
- Contributed to SandboxIR, simplifying vectorizer transforms, testing, and end-to-end profit-driven optimizations. In addition to implementing unit tests via GoogleTest.
- Provided MacOS documentation improvements and performed large-scale refactoring in LLDB to improve diagnostics and error reporting for all architectures, increasing accuracy and maintainability.

Compiler Engineer Intern | COI | *C/C++, Assembly, Compiler Optimization*

Sep 2024 – Jan 2025

- Built a compiler-grade deobfuscation pipeline in Python with symbolic execution and control/data-flow reconstruction—raised reverse-engineering throughput by 25% in tools like IDA Pro and Binary Ninja.
- Led development of a Type-2 Hypervisor debugger to emulate OS & hardware, enabling memory introspection & syscall hooking—accelerated vulnerability discovery by 30%.
- Removed critical bottlenecks in the codebase, improving overall product performance by 15%.
- Authored custom RE tools to automate vulnerability discovery & exploitation, cutting manual triage effort in half%.

PROJECTS

AMD-v Hypervisor KrakenSvm | *C/C++, Assembly, Windows, VMWare, WinDbg, CPU Internals*

- Built a minimal x64 hypervisor leveraging AMD-v extensions, nested page tables, and VMEXIT handlers for CPUID/MSR interception.
- Implemented Ring-0 logging hooks and a control plane for live guest OS introspection, memory tracing, and syscall monitoring (90+ stars on GitHub).

OS Kernel Developer | *C, Assembly, QEMU, Linux, GDB, Kernel Internals*

- Designed a 32-bit microkernel with a multistage bootloader, preemptive scheduler, and virtual memory paging.
- Integrated interrupt descriptor tables, SMEP/SMAP security protections, and basic VGA/keyboard/serial device drivers.

Vulnerability Scraper | *Python, Windows, Kernel Drivers, Multithreading, Security*

- Created a driver-aware scraper to harvest metadata from Windows kernel drivers and identify exploit candidates.
- Automated triage workflows using Python multiprocessing for high-throughput vulnerability analysis.

Graphics API Hook | *C++, DirectX11, GUI, Game Hacking*

- Developed a DirectX11 hook to inject and render custom GUI overlays at runtime via DLL injection.
- Implemented configuration-driven widget layouts and low-level API interception techniques.

TECHNICAL SKILLS

Languages: C, C++, Assembly, Arm, Python, Lua, TypeScript, JavaScript, Bash, Rust

Tools & Frameworks: Git, LLDB, CMake, IDA Pro, CI/CD, QEMU, Linux, macOS, Windows