Devin Pohl

5225 White Willow Dr Unit J210 – Fort Collins, Colorado – United States
+1 (505) 419-1052 • pohl.devin@gmail.com • Shizcow • www.pohldev.in

I am a compiler engineer at Microsoft, recent graduate of CSU, and Colorado's top-of-class in undergraduate computer engineering. I am currently applying for a PhD program in compilers, high performance computing, and hardware-software co-design.

Education

Colorado State University — **Fort Collins, CO**
Bachelor of Science in Computer Engineering, Minor in Mathematics, Minor in Computer Science — *May 2022*

- **Acadeic Distinctions:**
  - *2022 CEC Silver Medal Candidate*: Recognized as the number one computer engineering undergraduate in all of Colorado
  - *summa cum laude*, 4.0 GPA
- **Relevant Coursework:** Compilers, Fault Tolerant Computing, Computer Micro-Architecture, VLSI, Software Engineering, Abstract and Discrete Mathematics, Computer Networking, Operating Systems, Analog and Digital Circuit Design

Technical Skills

- **Programming Languages:**
  - Low-Level: ARM Assembly, LLVM, MASM, MIPS, x86 and x64 Assembly, UTC IR
  - High-Level: **C**, **C++**, Matlab, Java, JavaScript/TypeScript, Lisp, Python, Scala, **Rust**
  - Synthetic: GLSL, LaTeX, Spice, Verilog
- **Libraries, and Tools:**
  - Computational: Boolector, GMP, OpenCL, OpenMP, Rink.rs, SageMath
  - Graphical: X11, XCB, Cairo, Pango, Unicode CLDR, GTK, Qt

Work Experience

Compiler Engineer — **Redmond, WA**
Microsoft – DevDiv BLINK Team — *Jun 2022 – Present*

- Working as a part of the Backend Link Team to bring up the ARM64 native toolchain
- Implementing features and fixing bugs in MSVC's linker and assemblers
- Focusing on machine-dependent codegen, determinism, and build modernization

Platform Engineering Intern — **Fort Collins, CO**
Hewlett Packard Enterprise – NonStop Low-Level Team — *May 2021 – Aug 2021*

- Designed a performance modeling library to mock enterprise-grade RDMA behavior without dedicated hardware
- Proved feasibility of an implementation method that would drastically reduce startup cost for new customers
- Worked in C with InfiniBand and NSK to invisibly apply kernel-mode modifications to existing benchmarks and applications

Software Development Intern — **Fort Collins, CO**
Hewlett Packard Enterprise – NonStop Manageability Team — *May 2020 – Aug 2020*

- Improved and optimized OSM, the main application for maintaining, updating, and upgrading NonStop servers
- Migrated critical security procedures from CLI to GUI, cutting down on time overhead and human error for end-users
- Worked in Java, using Swing, AWT, RMI, and several internal HPE libraries

Notable Projects

Academic Research: Practical Program Equivalence — **Concluded May 2022**
Colorado State University – Under Dr. Yashwant Malaiya — *Department of Computer Science*

- Wrote a tool to prove program equivalence across software versions via LLVM symbolic execution
- Achieved non-trivial equivalence analysis on Rust and C++ code, with graphical commentary on divergence
- Implemented using Rust; symbolic computations solved with Haybale and Boolector

Senior Design Project — **Completed May 2022**
Colorado State University – Under Prof. Olivera Notaros — *Department of Electrical and Computer Engineering*

- Designing and implementing an embedded systems framework for enterprise-grade quadrupedal robotics applications
- Extending existing open-source designs to provide feature-parity with existing industry solutions at a fraction of the cost
- Collaborating with ECE Outreach to excite middle and high school students about Electrical and Computer Engineering

hotpatch — **v0.3.0 Released Feb 2021**
Shizcow/hotpatch — *docs.rs/hotpatch*

- Rust crate for cross-platform hot-reloading of functions and methods at runtime as easily as possible
- Guarantees memory safety, thread safety, deadlock protection, type correctness, and name-space parity