Devin Pohl

Atlanta, Georgia – United States
+1 (505) 419-1052 • dpohl@gatech.edu • Shizcow • www.pohldev.in

I am a first-year PhD student beginning my research in writing compilers for novel architectures.
I am currently seeking a research internship in the compilers and/or computer architecture space.

Education

Georgia Institute of Technology — **Atlanta, GA**
Doctorate of Philosophy in Computer Science — *Aug 2023 – Present*
- Advisor: Vivek Sarkar
- Research Interests: Compilers, Novel Architectures, High Performance Computing

Colorado State University — **Fort Collins, CO**
Bachelor of Science in Computer Engineering, Minor in Mathematics, Minor in Computer Science — *May 2022*
- **Academic Distinctions:**
  - *2022 CEC Silver Medal Candidate*: Recognized as the number one computer engineering undergraduate in all of Colorado
  - *summa cum laude*, 4.0 GPA

Work Experience

Compiler Engineer — **Redmond, WA**
Microsoft — DevDiv PLINCO Team — *Jun 2022 – Aug 2023*
- Implemented features and fixing bugs in MSVC's linker, assemblers, and compiler back-end
- Contributed early implementation work towards ARM64 native toolchain bringup
- Led implementation effort for automated testing of toolchain determinism
- Focused 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

Syndra Compiler — **Aug 2023 – Present**
Georgia Institute of Technology — Under Tom Conte — *CRNCH Lab*
- Building an optimizing compiler for a dataflow-based superconducting processor
- Optimizations include SMT-driven optimal scheduling, simultaneous scheduling and register allocation, and profile-guided / speculative optimizations (global instruction scheduling)
- Written from the ground-up in C++ to compile RISC-V traces and RISC-V assembly to Syndra assembly

dmenu-rs — **v5.5.3 Released Nov 2023**
Shizcow/dmenu-rs — *arch::aur::dmenu-rs*
- A program launcher, unit-aware calculator, spellchecker, search engine dispatcher, and general purpose menu for Linux
- A port of the popular GNU utility dmenu to Rust, garnering thousands of users and 180+ stars on GitHub

Technical Skills

- **Programming Languages:**
  - Low-Level: ARM Assembly, RISC-V 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, CaDiCaL, GMP, OpenCL, OpenMP, Rink.rs, SageMath, Z3
  - Graphical: X11, XCB, Cairo, Pango, Unicode CLDR, GTK, Qt