Cameron Hoechst

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Education

Georgia Institute of Technology — Atlanta, GA
B.S. Computer Science, Concentration in OS+Computer Arch./AI — *May. 2022 – Dec. 2024*

Georgia Institute of Technology — Atlanta, GA
M.S. Computer Science, Concentration in Computing Systems — *Jan. 2025 – Dec. 2025*

Experience

Undergraduate Research Assistant — TINKER Lab — May 2024 – Present
Georgia Institute of Technology — *Atlanta, GA*

- Contributing to QWERTY – functional language embedded in Python for quantum computers – **10 hours per week**
- Fixed code generation soundness bug using **MLIR** dataflow analysis, wrote related section of paper.
- Added support for variable declarations in the language, tested their implementation.

Software Engineer Intern — GT Open Source Program Office — May 2024 – August 2024
Georgia Institute of Technology — *Atlanta, GA*

- Contributed to MFC – exascale fluid dynamics simulation – **20 hours per week.**
- Doubled upper bound on input size for **GH-200** superchip by profiling using **NSight Systems.**
- Improved clarity of input validation – system now highlights invalid parameter and explains why.
- Configured **CMake** build system to aggressively inline functions on NVHPC compilers, enabled code quality improvements.

Teaching Assistant — Objects and Design (CS 2340) — August 2022 – December 2023
Georgia Institute of Technology — *Atlanta, GA*

- Worked with team of TAs to proctor and grade exams for class sizes of **600 to 800 students.**
- Coached an average of 10 to 20 students per week during bi-weekly office hours and project milestones.
- Provided feedback at key checkpoints on semester-long multi-faceted software engineering project.
- Improved feedback process by implementing additional checkpoints directly linked to class material.

Projects

Game Suite — Objects and Design | *Java, JavaFX, Github, Zenhub, Agile*

- Played a strong leadership role on a team of five to build three games in Java for Objects and Design (CS2340) coursework.
- Built product using Agile best practices over five two-week sprints.
- Leveraged Zenhub to coordinate team assignments and contributions.
- Recruited by professor to TA for the course at the conclusion of the semester.

Clap Detection Peripheral for SCOMP | *VHDL, Assembly Language, Intel Quartus*

- Collaborated with a team of four in a digital design lab setting to build peripheral for a small computer.
- Designed hardware using VHDL; Wrote application using peripheral in machine's assembly language.

Extracurriculars

Team Phoenix, Vertically Integrated Project — January 2023 - May 2024
Georgia Institute of Technology — *Atlanta, GA*

- **IndySCC 2023.** Collaborated with team of six students in international supercomputing competition to build, maintain, and benchmark Slurm cluster from scratch.
- Competition training encompassed tuning performance of scientific applications and reproducing results of HPC research papers.

Technical Skills

Languages: Rust, C/C++, Python, Java, Haskell, Verilog
Frameworks: LLVM/MLIR, JavaFX, Hugo
Developer Tools: Git, Neovim, Slurm, CMake, GDB, Github, Github CI, Xillinx Toolchain
Libraries: NumPy, Pytorch