Daniel Hawker

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Portfolio: hawkerd.github.io/profile ❖ GitHub: github.com/hawkerd ❖ DockerHub: hub.docker.com/u/hawkerd

EDUCATION

University of Minnesota **September 2022 – Present (Graduating May 2025)**

B.S. Computer Science, Mathematics Minor **3.941 GPA**

- Relevant coursework: Algorithms & Data Structures, Machine Architecture, Operating Systems, Networking, Functional Programming, Discrete Mathematics, Linear Algebra, Physics, Calculus, Statistics
- College of Science and Engineering Dean's List

WORK EXPERIENCE

Graco **May 2024 - Present**

Software Engineering Intern *Minneapolis, MN*

- Worked on embedded Linux software for ProMix V, Graco's flagship industrial proportioner, using C and Structured Text (CoDeSys), enhancing complex machine control processes and user interfaces.
- Led a cross-functional development team spanning Minneapolis and Delhi, managing pull requests and conducting thorough code reviews to ensure high-quality, maintainable code.
- Took on a leadership role by helping manage the release cycle, project roadmap, and development decisions.
- Performed extensive regression testing, ensuring reliability for multiple field tests and product launch.
- Practiced Agile methodologies through daily standups, sprints, and using tools like Jira, Git, and BitBucket.

PROJECTS

Drone Simulation (University of Minnesota) hub.docker.com/repository/docker/hawkerd/drone_simulation_final

- Collaborated with a team of three UMN students to develop a **full-stack** interactive drone simulation.
- Developed the **backend** logic in **C++** and integrated it with a **frontend** UI built with **HTML/ CSS/ TS**.
- Utilized **Git**, Jira for agile project management, and **Docker** for containerization and deployment.
- Implemented advanced software design patterns to enhance system scalability and maintainability.

STL Clone github.com/hawkerd/stl

- Implemented core **C++** standard library **data structures and algorithms** from scratch, including vector, list, map, and set, mimicking the behavior and performance of their standard counterparts.
- Performed **unit testing** using the **Google Test** library to ensure functionality compared to the STL.
- Gained a deep understanding of commonly used data structures/ algorithms and their implementations.

Sorting Algorithm Visualizer github.com/hawkerd/visualizer

- Interactive visualization of many sorting and pathfinding algorithms, written in **C++** and using **OpenGL**.
- Implemented a client-side **database** system with **SQLite** to efficiently store and retrieve user preferences.
- Enhanced knowledge of sorting and pathfinding algorithms through real-time visualization.

Proof Parser (University of Minnesota) github.com/hawkerd/parser

- Developed an OCaml proof parser to convert statements, rules, and lemmas into an abstract syntax tree.
- Collaborated with two UMN students for a functional programming course project.
- Uses the Dune OCaml project management system to simplify the build process.

SKILLS

- Languages: C, Python, C++, Java, Structured Text, OCaml, x86 Assembly, HTML, CSS, JS
- Practices: Agile, OOP, embedded development, software testing
- Tools: Git, Linux, Docker, GDB, Valgrind, UML, MatLab, R, CoDeSys
- Problem solving: algorithms, data structures, calculus, linear algebra, statistics
- Personal: project management, leadership, collaboration, professional communication