

Mason Hawver

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EDUCATION

University of Minnesota - Twin Cities

September 2022 – May 2025

B.S. in Computer Science, Minor in Mathematics

Minneapolis, MN

Coursework: Machine Learning, Robotics, Data Structures, Differential Equations, Multi-variable Calculus, Statistics, Linear Algebra, and Computer Graphics

GPA: 4.0

TECHNICAL SKILLS

Languages: (Proficient) C++ / C, Python, GLSL, (Competent) Java, OCaml, Lua, JavaScript, (Beginner) Rust, and R

Libraries: ROS, Pytorch, Scikit-Learn, OpenCV, NumPy, Matplotlib, Node, Django, GraphQL, SQL, and Emscripten

Tools: Git, Docker, Make, CMake, Maven, gdb, and Bash

PROJECTS

Game Engine | *C++, C, Lua, GLSL, and OpenGL*

September 2023

- Designed a stateless rendering API to efficiently offload gpu calls to a rendering thread, achieving 2X performance.
- Utilized a Entity Component System to reduce cache misses, achieving 10X performance and enabling flexibility.
- Crafted a Graphical Interface for performance profiling, debugging, and simulation editing.

Theorem Proving | *OCaml, OCamllex, and OCamlYacc*

May 2023

- Devised an interpreted language for defining theorems and axioms, forming a searchable graph of statements.
- Implemented a modified DFS algorithm to find natural proofs and simplifications with improved performance.
- Developed theorem sets for calculus to solve the derivatives of real functions

Facial Recognition | *Python, Numpy, and Scikit-Learn*

January 2023

- Applied Principal Component Analysis and a linear layer on a facial data, achieving an 85% f1 test accuracy.
- Optimized the forward pass for efficient use with a Fast R-CNN network after facial regions are found.

Object Detection | *Python and Pytorch*

August 2023

- todo
- todo

Personal Website | *HTML, CSS, JavaScript, Node, GraphQL, and SQL*

September 2022

- todo
- todo

LEADERSHIP AND INVOLVEMENT

UMN Robotics Club | *ROS, C++, Python*

December 2022 - Present

- todo
- todo

UMN Social Coding | *Javascript, HTML/CSS, React, Node, GraphQL, and SQL*

September 2022 - Present

- todo
- todo

EXPERIENCE

Teaching Assistant | *Functional Programming*

September 2023 – Present

University of Minnesota - Twin Cities

Minneapolis, MN

- todo
- todo
- todo

INTERESTS

Graphics Programming, Hockey, Baseball, Pumping Iron, Keyboard Design, Pixel Art, Soldering, and Game Design