**Mason Hawver**  
(630) 853 6747

# Education

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| **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

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| * **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.

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| * **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

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| * **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.

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| * **Object Detection** *Python and Pytorch* | * August 2023 |

* + todo
  + todo

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| * **Personal Website** *HTML, CSS, JavaScript, Node, GraphQL, and SQL* | * September 2022 |

* + todo
  + todo

# Leadership and Involvement

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| * **UMN Robotics Club** *ROS, C++, Python* | * December 2022 - Present |

* + todo
  + todo

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| * **UMN Social Coding** *Javascript, HTML/CSS, React, Node, GraphQL, and SQL* | * September 2022 - Present |

* + todo
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# Experience

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| * **Teaching Assistant** *Functional Programming* | * September 2023 – Present |
| * *University of Minnesota - Twin Cities* | * *Minneapolis, MN* |

* + todo
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# Interests

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