Nathan Hutton

801-560-3611 | nathan.d.hutton@proton.me | linkedin.com/in/nathanhutton | github.com/nathan-hutton | YouTube

Education

University of Utah Dec. 2025
M.S. Computer Science, Specialization in Data Visualization & Computer Graphics *GPA: 4.0*

Westminster University May 2024
B.S. Computer Science, Minor in Applied Mathematics *GPA: 4.0*
- Awarded outstanding computer science student of the year

Salt Lake Community College May 2021
A.S. General Education *GPA: 4.0*
- Earned degree while in high school

Experience

Software Engineer Intern May 2025 – Aug. 2025
Flight Safety International *Broken Arrow, OK*
- Migrated flight simulation's I/O system to Phidgets API in C++, eliminating $50,000+ in legacy hardware costs

Software Engineer Intern Feb. 2023 – May 2024
Idaho National Laboratory *SLC, UT*
- Migrated test harness from MATLAB to Python with Numpy, Scipy, and Pytest, saving thousands in licensing fees
- Configured CI/CD GitLab pipelines within a Linux environment to automate build and test processes
- Refactored a legacy RF transceiver GUI using Tkinter, improving user workflow and repository maintainability

Computer Science Tutor/TA Aug. 2022 – Dec. 2023
Westminster University *SLC, UT*

IT Technician Aug. 2021 – May 2024
Westminster University *SLC, UT*
- Resolved 500+ Jira tickets for network and account issues
- Trained 6 IT employees on Jira ticketing, Windows, and customer service practices

Projects

Boids Flocking Simulation | *C++, OpenGL, ImGui* GitHub | Video
- Implemented Craig Reynolds' flocking algorithm to simulate the emergent behavior of 4,000+ agents in real-time

Solar System | *C++, OpenGL, JSON* GitHub | Video
- Dynamic physics, shadow maps, bloom, and verlet numerical integration

Volme Renderer | *C++, OpenGL, Glui* GitHub | Video
- Ray marching in GLSL with modifiable transfer functions

Air Quality Index Visualization | Javascript, D3, JSON GitHub | Video
- Interactive D3.js visualization for Utah's AQI, personally contributing 63% of the project's total commits

Ray Tracer | C++ GitHub
- Reflections, refractions, shadows, bounding volume heirachies, texture mapping, and anti-aliasing

Squibblets | C#, Unity, Firebase, AGILE GitHub
- Engineered the primary gameplay loop and UI while integrating Firebase for the online leaderboard system, personally accounting for 54% of all commits on a 4-person team

Mass Spring System | C++, OpenGL, Eigen GitHub
- Simulate a mass spring system made up of 8,000 tetrahedrons in real time

Screen-Space Fluid Renderer | C++, OpenGL GitHub | Video
- Real-time rendering of cached fluid simulations with caustics. Uses narrow-range filter to achieve surface shape.

Technical Skills

Languages: C/C++, Python, Java, C#, JavaScript, HTML/CSS, LaTex, SQL
Tools: Linux, Git, Docker, Vim, VS Code, Visual Studio, Windows, Jira
Libraries: OpenGL, NumPy, Pandas, ImGui, Matplotlib, Eigen, Pytorch, SciPy