Tyler Eaker

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Education

Southern New Hampshire University — Manchester, NH

Bachelor of Science in Computer Science — 3.7/4.0 GPA — *December 2025*

- Relevant Coursework: Analysis and Design, Software Security, Operating Platforms, Software Testing, Computer Graphics, Data Structures, Databases, Operating Systems

Minor in Applied Mathematics — *December 2025*

- Relevant Coursework: Calculus, Discrete Math, Applied Linear Algebra, Cryptology, Statistics

Software Projects

VoxelByte | *C++, OpenGL, glm, GLFW* — github.com/tyler-eaker/VoxelByte

- Constructed a 3D rendering and game engine using C++ and OpenGL from scratch.
- Implemented complex data structures to efficiently store, load, and unload volumentric pixel (voxel) data.
- Wrote code to improve performance by iteratively reducing the amount of triangles rendered by the GPU.
- Integrated several open source libraries to boost code portability across different hardware and operating systems.

Infinity Climber | *C#, GDScript, Godot, Steam API* — steampowered.com/app/3488440

- Developed a 3D physics-based multiplayer platformer using the Godot engine with networked gameplay systems.
- Implemented player traversal, physics-driven obstacles, and synchronized multiplayer mechanics across clients.
- Designed scalable game architecture to support content expansion, gameplay balancing, and optimization.
- Prepared the project for commercial distribution on Steam, including build configuration and release planning.

OptiContact Service Engine | *Java, JUnit 5, UUID, Maven* — github.com/tyler-eaker/OptiContact

- Engineered a high-performance contact management service using Java with a dual-storage backend architecture.
- Implemented HashMap-based indexing to achieve O(1) search performance and reduce large-scale lookup latency.
- Developed a dynamic configuration system using external properties with thread-safe initialization.
- Authored a comprehensive JUnit 5 test suite ensuring data integrity, UUID uniqueness, and exception handling.

RescueDB | *Python, MongoDB Atlas, Dash, Plotly, Leaflet* — github.com/tyler-eaker/RescueDB

- Engineered a full-stack dashboard for interactive visualization and geospatial tracking of shelter animal data.
- Integrated a secure MongoDB Atlas backend using environment variables to protect sensitive database credentials.
- Developed a custom Python CRUD module to streamline data retrieval, validation, and filtered searches.
- Created an interactive UI with dynamic Plotly charts and Leaflet maps for real-time location analysis.

Work Experience

Operations Support Associate — Feb. 2020 – June 2022

Menards — *Plainfield, IL*

- Coordinated inventory movement, material staging, and load sequencing to ensure accurate, timely fulfillment of customer and contractor orders within a fast-paced, high-volume operational environment.
- Utilized point-of-sale and inventory management systems to track materials, reconcile stock discrepancies, update records in real time, and maintain consistent data accuracy across departments.
- Collaborated closely with team members and department managers to streamline yard workflows, improve turnaround time, and reduce operational bottlenecks through process awareness and task prioritization.
- Enforced safety, quality, and procedural compliance standards while handling heavy materials and operating equipment, contributing to reliable daily operations and reduced workplace incidents.

Technical Skills

Languages: C, C++, C#, Java, Python, GDScript, Lua, MATLAB
Frameworks & APIs: Windows API, OpenGL, Godot, SFML
Developer Tools: Git, VS Code, CMake, MinGW, GCC, GDB, Gprof
Libraries: Standard Library, Boost, ImGui, glm, GLFW
Operating Systems: Windows, Linux