**CONNOR SCULTHORPE**

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EDUCATION

Southern New Hampshire University

**Bachelor of Arts in Computer Science, minor in Applied Mathematics** Expected 2026

**Associate Degree in Computer Science (GPA 3.9)** 2024

* Inducted into 3 honor societies for academic and leadership excellence: National Society of Leadership and Success (2024), Alpha Sigma Lamba (2019), and National Society of Collegiate Scholars (2018).

SKILLS

**Programming & Development:** C++, Java, Python, Data Structures, Algorithms, Software Development Lifecycle (SDLC), Root Cause Analysis, CI/CD, Code Coverage, Code Reviews, Reverse Engineering, DevSecOps, Agile, OOP

**Database & Infrastructure:** MySQL, Relational Database Design, Transport Layer Security (TLS), Docker, Windows, Linux

**Tools:** Git, GitHub, Eclipse, IntelliJ, Jenkins, JUnit Tests, PyCharm, Jupyter Notebook, Visual Studio

PROJECTS

**Skyrim Game Engine Optimization**

* Developed performance improvements to The Elder Scrolls V: Skyrim's game engine with modifications in C++.
* Optimized cell reset timers and improved memory management – reached over 500k launches from 68k unique users.
* Conducted root cause analysis of the game engine's asset loading and memory allocation systems, identified legacy inefficiencies through systematic testing and brute-force experimentation to determine optimal system parameters.
* Contributed key optimization elements to the broader Skyrim community patch initiative and addressed memory bloat and physics object persistence issues while improving overall game stability across multiple Bethesda titles.

**Hold to Craft - No Man's Sky Enhancement Tool**

* Designed and implemented a new crafting automation solution for No Man's Sky using C++ and AutoHotKey programming languages, which improved a repetitive in-game process.
* Engineered a user-friendly GUI utilizing AutoHotKey that integrated with Windows API and DirectX systems.
* Released this quality-of-life modification that reached 989 downloads from the No Man's Sky community.

**Task Management System**

* Architected a modular Java-based appointment and task management system featuring distinct controller classes for contacts, scheduling, and task tracking while implementing a maintainable codebase structure.
* Developed JUnit test suites for all application modules and achieved 100% code coverage against an 80% requirement through systematic validation of functionality and edge cases.
* Created error handling and validation mechanisms across all system components.

WORK EXPERIENCE

**Self Employed IT Consultant** October 2023 – Present

Provides hardware and software solutions including custom PC builds, device repairs, and system optimization services as an independent IT Professional serving individual clients in the Laughlin, NV area.

* Conducted a security audit and vulnerability assessment of router firmware for Micronet-Union Technologies, with a focus on code analysis and security enhancement of their embedded system.
  + Identified 16 critical vulnerabilities through static analysis of C++, JavaScript, and Shell code across multiple system dependencies and libraries.
  + Implemented responsible disclosure protocols using CWE standards while providing remediation strategies.

**Software Developer & Tutor at Preply, Inc**. March 2021 – August 2023

Delivered English as a Second Language (ESL) instruction via one-on-one remote lessons to students across 15 countries.

* Designed and implemented a custom MySQL database and Python analysis system to track student performance metrics and learning patterns – helped grow long-term student base 6-fold.
* Engineered a secure system in Java with Spring REST API and TLS protocols to streamline data collection and analysis.
* Conducted one-on-one virtual tutoring sessions for students from diverse linguistic backgrounds.
* Created and maintained a student progress tracking systems using XML data and a MySQL database.