Jonathan Wich

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EDUCATION

Middle Tennessee State University, Murfreesboro TN **Expected Graduation: 2026**
Bachelor of Science in Computer Science

Relevant Coursework:
Algorithms and Data Structures, Intro to Computer Systems, Discrete Structures, Assembly and Computer Organization

SKILLS AND ABILITIES

Experienced in: Lua, Python
Working Knowledge: C/C++, C#, HTML, CSS
Other: Strong memory and communication skills. Adept at learning and operating in bespoke environments.

PERSONAL PROJECTS

For more information, please see my website attached at the top of this page.

Physics Overhaul – Designed and implemented a system for character movement physics using Lua.

- Incorporated into an existing game without modifying the underlying character controller.
- Created a framework for scripting entirely new characters and extending existing actions.
- Developed a library to simplify using pointers for data retrieval and memory manipulation.
- Built a framework to handle loading additional mods that modify the same game archive without conflict.

Animation Viewer – Created an in-game animation viewer by leveraging game functions in Lua.

- Built a database to store and manage 1,000+ strings separated into substrings.
- Designed and implemented functions for assembling and traversing pages by reconstructing stored strings.

Roguelike Prototype – Developed a randomly generated maze game inside *Sonic The Hedgehog 2006* via Lua.

- Fully featured Roguelike Dungeon Crawler where the player navigates randomly generated rooms and puzzles.
- Custom pathfinding algorithm to solve mazes, guard against unbeatable layouts and aid maze generation.
- Bespoke item/inventory system using OOP.
- Constructed entirely within the constraints of the game's native Lua implementation.

Combat Extension – Expanded the combat of *Sonic Frontiers* using Lua then rewrote the project in C#

- Inheritance focused design to accommodate 5 unique gameplay styles.
- Added new systems for extrinsic and intrinsic reward while adhering to the original game design.

Accolades/Other Works

Best Technical Work (Honorable Mention) – Sonic Hacking Contest 2023 – Roguelike Prototype
Best Boss Design – Sonic Hacking Contest 2023 - Roguelike Prototype
Best Fresh Concept – Sonic Hacking Contest 2023 - Roguelike Prototype
Gravity Circuit – Credited with Playtesting and Feedback

- Provided extensive testing and feedback on gameplay and design throughout later development.
- Identified and replicated countless crashes and bugs, from mild (graphical) to major (inverting gravity).

Sonic Project 06 – Credited with Special Thanks as "Gordin Ramsay"

- Assisted via extensive beta testing, feedback, and reverse engineering portions of the original game.