

Allie Lavacek

alavacek@umich.edu

alavacek.github.io

(248) 974-8026

EDUCATION

University of Michigan - Ann Arbor

Bachelor of Science, Computer Science

August 2020 - December 2024

Overall GPA 3.86

RELEVANT COURSEWORK

- | | | |
|------------------------------------|-----------------------------------|-------------------------|
| ❖ Introduction to Game Development | ❖ Extended Reality and Society | ❖ Software Engineering |
| ❖ Data Structures and Algorithms | ❖ Foundations of Computer Science | ❖ Computer Organization |
| ❖ UI Development | ❖ Web Systems | ❖ Computer Vision |

WORK EXPERIENCE

Blizzard Entertainment, Irvine, CA/Gameplay Engineering Intern

May 2024–August 2024

- ❖ On Overwatch 2, utilized C++ and Statescript visual scripting language to develop features within custom Tank engine
- ❖ Modified Statescript nodes to enable new gameplay features, including shockwaves (Reinhardt's Earthshatter, Mauga's Overrun, etc.) which can reverse towards the sender and dynamic projectile collision radii on ricochet
- ❖ Improved workflows by adding an Entity Info debugger panel and logic that simplifies adding charges to an ability

Kyrie Studios, Remote/Gameplay Programming Intern

November 2023–April 2024

- ❖ In Unreal Engine 5, worked with a team of 25 others to develop Patheon Rift, a thrilling party-style battle royale
- ❖ Implemented unique NPC and animal behaviors, knocking rolling barrels, cannons, and explosions

Visteon Corporation, Belleville, MI/Product Development Intern

May 2023–August 2023

- ❖ Explored the benefits of using Unreal Game Engine for automotive HMI through a Proof of Concept project
- ❖ Collaborated with a cross-functional team in the Godot Game Engine to implement features and optimize performance in order to investigate potential options to enhance the user experience

PROJECTS

2D Game Engine, Ann Arbor, MI/Solo Developer

September 2024–Present

- ❖ Developed a multi-platform 2D game engine with portable C++ code and integrated Lua scripting via LuaBridge, optimizing performance while enabling flexible content creation and configuration across various operating systems
- ❖ Integrated and utilized open source, industry-standard middleware for windowing (SDL), physics (Box2D), audio, etc.

Wolverine Soft Studios, Ann Arbor, MI/Programming Lead

April 2023–April 2024

- ❖ Maintained Git Repository and handled merge conflicts that were encountered
- ❖ Oversaw a team of 8-13 students. Held weekly meetings, office hours, and planned meetings with an industry advisor
- ❖ From August 2023-April 2024, developed an RPG in the Unity Game Engine with a team of 40 students
- ❖ Created initial prototype and architecture of all basic functionality: a battle system similar to that found in the popular title *Undertale*, input and movement scripts, a dialogue system, and a quest system
- ❖ From April 2023-August 2023, collaborated with a team of 30 students to create a captivating "2.5D" game in the Unity Game Engine which emulated the gameplay mechanics of the popular title *Nova Drift*
- ❖ Built the initial prototype featuring an encounter system, and abstract classes for enemy controllers and weapons

SpeakVR, Ann Arbor, MI/Developer

October 2023–December 2023

- ❖ Team of 5 developers, implemented a VR app in Unreal Engine 5 to improve user's public speaking skills and confidence
- ❖ Utilized voice tracking technology to assess user's output volume and responsible for analytics system

Granny's Day Off, Ann Arbor, MI/Developer

October 2022–December 2022

- ❖ Team of 5 developers and a musician, created a 3D, 1v1 3rd person shooter in the Unity Game Engine
- ❖ Responsible for the initial designs and concept, NPC and Police's movement behavior, post-processing, art and animation integration. Created the Player, NPC, and Player House 3D models in Blender