Griffin **Ryan**

Tacoma, Washington · B.S. in Computer Science and Systems

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Education

University of Washington

Tacoma, WA

Current student of B.S. in Computer Science and Systems

Fall 2021 - Spring 2023.

- Admitted to a capacity-constrained program with standing GPA of 3.80. Selected for dean's list of academic achievement every attended quarter.

Experience

CSS Mentor at UW School of Engineering and Technology

University of Washington-Tacoma

Computer Science and Systems Tutor for UW Computer Science curriculum

Summer 2022 - present

- Provided comprehensive tutoring for UW Computer Science curriculum up to 400-level courses, assisting students in programming, debugging, and algorithm implementation.
- Covered all subjects offered in the School of Engineering and Technology's Computer Science and Systems program.
- Effectively mentored students using adept software development knowledge and teaching skills.

Portfolio

Doter IDE and Code Editor

https://github.com/griffinryan/DoterEditor

Cross-platform Code Editor and IDE for Multiple Languages

Spring 2022

- Developed Doter IDE, a cross-platform code editor and IDE supporting Java, Python, Go, Ruby, C#, C++, and more languages.
- Implemented syntax highlighting, linting, and a powerful code generation AI for enhanced coding productivity.
- Designed with asynchronous editing to support multitasking across multiple fields.
- Leveraged the language server used in Microsoft's Visual Studio Code for robust language support.

DungeonEngine

https://github.com/HuskyDevClub/DungeonAdven

2D Java Adventure Game Engine

Summer 2022

- DungeonEngine is a 2D roguelike adventure game built with our custom game engine written in JavaFX using Java 17.
- Features 60 FPS on all platforms. The engine is complete with full user-input, sound design, graphical rendering, hitbox collision, etc.
- Modules defined under DungeonEngine.engine contain components for animation, clever enemy AI, and all engine logic.
- DungeonEngine's alpha build includes enemy AI, particle systems, combat systems, an animation system using spritesheets, and a simple sound engine for original in-game music.

Hollowscape: 2D Action Platformer with Dynamic Audio

https://github.com/TCSS491Black1/Game

JavaScript game engine featuring a Hollow Knight-based physics engine

Fall 2022 - Present

- Designed and developed "Hollowscape," a 2D action platformer inspired by Hollow Knight, using JavaScript.
- Created a custom panning sound engine to dynamically enhance the audio experience based on in-game events. (credited as "Torpoise" for the music)
- Composed and produced original music and sound effects for the game, played in large Seattle venues.
- Collaborated with a small team of developers to craft engaging gameplay mechanics and challenging levels.

A Study of CGI Math

https://griffinryan.com

Research Paper

Winter 2022

- Research on the complex linear algebra behind three dimensional perspective rendering.
- Studies the effect of calculating ray-traced lighting on a 3D object using surface normal.

Extracurricular Activity

HuSCII Coding Club / Husky Game Development Club

University of Washington

Member

Fall 2021 - present.

- Gained expertise in game development theory, with exposure to building game engines from scratch.
- Exposure to using large game engines such as Unreal Engine 4/5 and Unity. Gained knowledge of C# and C++ game development.