

Jonathan Bogie

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EDUCATION

University of Oregon

Bachelor of Science in Computer Science, Minor in Mathematics

Eugene, OR

Sep 2020 – Present

TECHNICAL SKILLS

Languages: C++, C#, Lua, Python, Java, JavaScript, Swift, HTML, CSS

Frameworks: React, Node, Vue, Angular

Libraries: Pandas, NumPy, MATLAB

Engines: Unity, Unreal, Roblox Studio

PROJECTS

Elixir2D Framework | *JavaScript, HTML, CSS, SQL*

Aug 2022 – Dec 2022

- An open source framework for object-oriented web games
- Implements 2D physics simulations, graphical interfaces, and input handling
- Leveraged an SQL relational database to collect, store, and process player data

Scaler Building | *C++, Linear Algebra, Computational Geometry*

Jun 2020 – Mar 2021

- A game system that enables the construction and texturing of 3D structures
- Includes 3D mathematical applications of triangulation, straight skeletons, vectors, and matrices
- Developed a graphical interface with navigation and user experience in mind

Cyclone Culling | *C#, Graphics, Simulation*

Apr 2021 – Jul 2021

- Game module for dynamically rendering objects in 3D space
- Implements spatial querying and partitioning techniques for optimizing large searches
- Features object pooling and level-of-detail configurations to reduce resource consumption

DejaVu Editor | *Lua, GUI, Design patterns*

Jul 2022 – Nov 2022

- Template-based map editor for performant, low memory map making in games
- Features interactive tools and features for developers with a graphical interface
- Leveraged the Flyweight design pattern to minimize duplication of shared data

Lossless Compression | *C++, Data, JSON*

Nov 2020 – Dec 2020

- Constructed an algorithm to compress JSON encoded packets for data transmission
- Optimized memory and processing time for compression operations
- Benchmarked and monitored performance with thorough unit testing

Documentation Sites | *JavaScript, HTML, CSS*

Jun 2021 – Jan 2023

- Created and deployed documentation wikis for developers to use my projects
- Features web development frameworks and component based design with React and Node
- Conducted testing to ensure optimal performance across multiple platforms and devices

Portfolio Site | *JavaScript, HTML, CSS*

Oct 2022 – Dec 2022

- Integrated Elixir2D to create an immersive, game-oriented portfolio showcase
- Engages visitors by showcasing my projects in a fun and engaging way

Computer Model | *Python, ARM Architecture*

Sep 2020 – Jan 2021

- Modeled a basic computer inspired by the ARM instruction set architecture
- Features a CPU, general purpose registers, and a fetch/decode/execution cycle

EXTRACURRICULAR

Google Developer Student Club

Oct 2022 – Present

Member

- Collaborate with peers to gain technical skills through hands-on workshops using various Google API

Game Development Club

Nov 2021 – Present

Member

- Work together and individually to create, publish, and learn about video games with peers