

# Charles Boudousquie

## Tools and AI Developer

<https://www.linkedin.com/in/charles-boudousquie>

425-465-8863

[charlesboudousquie@gmail.com](mailto:charlesboudousquie@gmail.com)

<https://github.com/charlesboudousquie/Portfolio>

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### SUMMARY

I am a driven Software Engineer with 5 years of video game programming experience including Graphics, Particle Systems, built from scratch 3D editors and Behavior Trees. I will develop and maintain any project with my team.

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### COMPUTER SKILLS

#### Languages

- C++ (4 years)
- C#, Python

#### Operating Systems

- Windows, Linux

#### API

- OpenGL 3 / 4.3
- ImGui / ImGuiZmo
- Assimp, Bullet3
- GLFW, SDL
- Berkeley Sockets (Windows and Linux)

#### Tools

- Visual Studio
- Git
- Unity, Unreal Engine 4

#### Soft Skills

- Working on a team
- Pair Programming
- Always mentoring and open to new ideas

- OpenGL 3D Rendering, Reflection, Refraction, Texture, and Deferred Shading.
- AI pathing and problem solving

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### EXPERIENCE

**Engine Programmer** 1/2018– 4/2018

**Gun Garden – 2D Action Bullet Hell**

- Developed and maintained Customizable Particle System
- Created Menus and Tutorial level

**3D Editor Programmer** 9/2018– 3/2019

**Project Abyss – 3D First Person Light Mixing Puzzle Platformer**

- Researched and integrated tools for custom 3D video game editor
- Set up graphics using OpenGL
- Integrated Bullet3D Wireframe and
- Bounding Box debug drawing
- Added Translation, Rotation, and Scale Gizmos
- Ray Picking to move objects with mouse
- Integrated Nlohmann JSON for serialization
- Implemented scene viewing
- FPS Camera and Editor Mode Viewing
- Undo/Redo functionality (save state)

**AI Programmer** 9/2019 – 4/2020

**Reformed Studios**

- Implemented efficient, shared behavior tree system
- Created Behavior trees with said system

**Personal Project** 5/2020 – 8/2020

- Created full flight 3D Octree navigation

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### EDUCATION

**Bachelor of Science in Computer Science in Real-Time Interactive Simulation – Redmond, WA** 9/2016 – 4/2021

DigiPen Institute of Technology

- Basic Networking