

# Charles Boudousquie

## Software Engineer

### Specialize in Tools and AI Development

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

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

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#### SUMMARY

I am a driven Software Engineer with 2 years of industry experience, and 1 year volunteer programming with independent game developers. Programming experience includes Graphics, Particle Systems, built from scratch 3D editors and Behavior Trees. I am passionate about writing top- quality maintainable code, and I am eager for opportunities that combine team driven development and individual component ownership.

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#### COMPUTER SKILLS

##### Languages

- C++ (3 years professional, 8 total)
- Python(2 years professional)

##### Operating Systems

- Windows, Linux

##### API

- OpenGL 4.3, ImGui / ImGuiZmo
- Assimp, Bullet3, GLFW, SDL
- Berkeley Sockets, Apache Thrift, Pybind11

##### Tools

- Visual Studio, VS Code, Git
- Unity, Unreal Engine 4, Buck Build Tool

##### Soft Skills

- Working on large collaborative codebases.

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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

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

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#### PROFESSIONAL EXPERIENCE

**Cornered Rat Software** 9/2021 – 4/2022

- Generalist Programmer (bug fixing)
- Full time (40 hours a week)

**Meta (XR Maps Team, Contracted by Advantis Global with a 2 year limit) 4/2022 to 4/2024**

- Software Engineer
- Reduced build times to 1/8<sup>th</sup>
- Wrote Pybind11 code to connect our C++ and Python code.
- Wrote custom, fast Thrift serialization

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#### SCHOOL PROJECTS

**Engine Programmer** 1/2018– 4/2018

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

- Developed 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
- Build a graphics framework with OpenGL
- Added Translation, Rotation, and Scale Gizmos
- Integrated Bullet3D physics
- Ray Picking to move objects with mouse
- FPS Camera and Editor Mode Viewing
- Undo/Redo functionality (save state)

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#### **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