

Jacob A. Burke Software Engineer

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SKILLS

- 7 years of software development experience
- Skilled in Unity, Unreal, and Custom C++ engines
- NPM, JSON, Visual Studio, CLion, Git, Subversion, Trello, Jira, Notion, Blender and Excel
- Skills in C++, C#, C, and Javascript
- Unreal C++ and Blueprints
- World travel and communication experience in many cultures (6 years crewing yacht in 15 countries)

PROFESSIONAL EXPERIENCE

- Gameplay Engineer**, TRU DarkNet Inc. (DBA Hexagram) May 2023 – May 2024
New York, NY
Unannounced - AI role-playing VR game for major tech firm - Unity
- Developed map and tiling generator using procedural gameplay techniques and an AI art overlay API, integrated with and stored on an event-driven game server
 - Created tools for in game art handling and procedural applications
 - Designed and implemented technical art for gameplay transition states
- XLA Metasites - 3D Metaverse Platform - Unreal 5
- Engineered a plugin to connect clients with event-driven game server, giving developers access to AI feature interfaces, inventory systems, and key gameplay mechanics.
 - Integrated multiplayer custom quest handler into plugin
- Prototype Developer**, Topography Aug 2022 – Feb 2023
Santa Cruz, CA
Strata – Unreal Engine Live Performance Tool – Unreal 5
- Worked with project directors to create prototypes proving out the concept, visuals, and mechanics of the experience
 - Integrated live streaming toolkit, photogrammetry assets, and captured motion data to create a dynamic world
 - Developed array of custom shaders for key environmental features
- Strata - Physical Installation - Unreal 5 Sep 2024 – present
Santa Cruz, CA
- Developed with virtual production tools allowing for real-time use in conjunction with needed assets and effects
 - Designed tools for recording both media and audio outputs for use in installation
- Developer Support for Unity**, Game Changers Studio Jun 2021 – Aug 2021
Riyadh, Saudi Arabia
- Provided drop-in online game development support for apprentices with an education level of a BS or higher
 - Furthered apprentice's skills in Unity, C#, Bolt, and game development processes

ACADEMIC PROJECTS

- AI Tools Programmer / VR Developer**, Team Size: 5 Aug 2022 – Apr 2023
Bug Blast Ultimate - 3D Arena FPS - Unity
- Programmed a tool to create custom behavior trees in Unity and blackboards in editor
 - Applied tools in addition to an agent system I worked on to develop the core AI in game
 - Ported the game to VR and adapted gameplay mechanics to function in virtual reality.
- Gameplay Programmer / Producer**, Team Size: 17 Aug 2021 – Apr 2022
Anesthesia – 3D Synthwave Horror/Puzzle - Unreal
- Implemented movement, behavior trees, sight, and hearing into enemy AI in Unreal C++
 - Created tools for designers to be able to change the core enemy mechanics
 - Developed essential mechanics in the puzzle system using visual scripting in Unreal
- Audio Programmer / Producer**, Team Size: 13 Aug 2020 – Apr 2021
Dimlight Dungeon - 2D Hack and Slash Dungeon Crawler – Custom C++ Engine
- Integrated FMOD Studio into the custom C++ engine and collaborated with the sound designer to add audio in engine
 - Engineered working Input System in custom C++ engine which allowed more efficient implementation for gameplay
 - Developed enemy behaviors including targeting, movement, and attacks

EDUCATION

BS in Computer Science and Game Design, DigiPen Institute of Technology

2019 – 2023