Mathew Tomberlin

AR/VR Developer and Gameplay Engineer

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Summary

AR/VR Software Engineer and Game Developer with 8+ years of experience

AR/VR Developer driven to build immersive and engaging gaming experiences. I built a haptic VR game that won AWE 2024's Best in Show, a therapeutic VR game to treat child illness, and a new way to move in virtual reality. I have given hundreds of VR demos, built testing apps for haptic tracking gloves, and repaired those gloves to show investors. Previously, I served as a US Marine Corps Korean linguist and signals intelligence operator.

Skills

- **Game Engines**: Unity and Unreal Engine
- **Code**: C#, C++, Blueprints, HLSL, OpenXR
- **Rendering**: Shaders, Materials, Textures, Lighting
- **Gameplay**: Physics, combat, AI, level design
- **Design**: Environmental, Gameplay Programming, UI
- **AR/VR Hardware**: Oculus, Vive, Index, Haptics
- **Game and Engine Optimization and Debugging**
- **3D Modeling, Rigging, and Animation**

Professional Experience

HaptX Inc. *Unreal Engine, Unity, C++, C#, VR* **VR Software Engineer** Mar 2022 - Oct 2024

- Shipped Unreal Engine C++ VR game that won AWE USA 2024's Best of Show
- Shipped Unreal Engine C++ testing app, ensuring customers received functional VR hand tracking gloves
- Optimized Unreal Engine C++ VR game framerate by 100% via performance profiling and engine debugging
- Tested and repaired tracking gloves for investor demos that enabled a $12 million investment by AIS
- Gave 100+ haptic VR demos to investors, ITSEC 2023 attendees, and CalPoly students

Tapestry Solutions *Java, Javascript, Typescript, React, Kafka* **Software Engineer** May 2019 -Mar 2022

- Developed Boeing ESI's internal simulation data processing using Apache Kafka
- Developed the ICODES Load Planner web app via requirements designed by government customers

Undergraduate Researcher *Unity, Unreal Engine, C#, C++, VR* **Game Developer** Jan 2017 - Mar 2018

- Shipped Scalebridge, a Unity C# VR game using an EEG headset, that was presented at VS-Games 2019
  (PDF) Scalebridge: Adaptive Reasoning Proportional Reasoning Game
- Developed Gauntlet, a VR input technique for hand tracking, and published a paper about it at IEEE VR 2017
  (PDF) Gauntlet: Travel Technique for Immersive Environments

US Marine Corps **Korean Linguist and Sigint Operator** Oct 2007 - Jun 2012

- Graduated with fluency in Korean and operated networking and intelligence equipment

Personal Projects

Block Breakout *Unreal Engine, C++, Shaders, Materials* **Open-source UE4 C++ Game** Oct 2018 -Nov 2018

- Shipped open-source Unreal Engine C++ game, including custom shaders and materials
  Source Code: https://github.com/MathewTomberlin/Breakout

Open Ocean VR *Unity, C#, VR, Engine Tools* **Immersive Underwater VR Game** Jan 2018 - Apr 2018

- Programmed Unity tools for designers, modeled and animated animals, and coded the npc behaviors
  Non-VR Version: https://gamejolt.com/games/OpenOcean/383524

Just One Night *Unity, C#, VR* **2017 IEEE VR Gauntlet Technique VR Demo** Jan 2017 - Mar 2017

- Programmed hand gesture controls and character animation for Unity VR game working with remote artists
  VR & Leap Motion Version: https://studentgames.itch.io/just-one-night

Education

CSU Monterey Bay **Computer Science B.S. & Game Programming Concentration** Aug 2016 -May 2018