

# Matthew Hansen

## Game Programmer

Portfolio: <https://mhansen.dev>

### Summary

Game programmer with 10 years of experience, specializing in high-performance **2D/3D** games shipped on **PC**, **consoles**, and **mobile**. Extensive experience in **gameplay** systems, **UI/UX**, rapid prototyping, performance **optimization**, custom **engine** frameworks, **audio**, and **multiplayer** systems.

### Education

**Florida Interactive Entertainment Academy (FIEA/UCF)**  
*M.S. in Interactive Entertainment* 2016

**University of Central Florida**  
*B.S. in Computer Science* 2015

### Skills

**Languages:** C#, C++, Blueprint  
**Engines:** Unity, Unreal Engine  
**Technologies:** Git, Blender, SteamVR, OpenGL  
**Platforms:** Windows, Linux, Android, iOS, Xbox, PlayStation

### Experience

**Georgia Tech Research Institute (GTRI) | Research Engineer II** Mar. 2021 – Feb. 2023

- Lead a multi-disciplinary team of 4, from engineering, art, and design, to develop real-time **Virtual Reality** applications for aircraft training and maintenance programs
- Developed a dynamic **quest progression** and in-world highlighting system in **C#** and **Unity**, enhancing user comprehension of objectives, and increasing quest completion rates by **60%**
- Managed **development roadmaps** in collaboration with directors, ensuring incremental deliveries

**Apex Systems (at GTRI) | Software Engineer** Sep. 2019 – Mar. 2021

- Integrated a simulated F-16 Center Display Unit with **OpenGL** and FliteScene APIs, enabling 2D **map visualizations** and area navigation performance metrics

**Independent | Software Engineering Consultant** Aug. 2016 – Sep. 2019

- Designed an **Augmented Reality (AR)** application demonstrating animated photo capabilities, a key asset in a photography studio's investor pitches
- Implemented real-time **vehicle AI** locomotion in **C#**, enabling responsive circuit racing behaviors
- Collaborated with educators to design and develop core **gameplay** systems and the **UI/UX** for an interactive **iOS** and **Android** learning experiences, addressing unique sensory and communication challenges for children on the autism spectrum

**Xaviant, LLC | Junior Programmer** Oct. 2017 – May 2018

- Engineered a **vehicle gameplay** system utilizing **Unreal Engine 4** RPCs, **C++**, and Blueprint through the full development lifecycle in close collaboration with the design team
- Developed a cross-platform proximity **VoIP system** integrating **Steamworks**, **PlayStation Network**, and **Xbox LIVE** SDKs, significantly enhancing in-game team communication and demonstrating advanced network programming and API integration skills
- **Optimized** a third-person shooter by profiling gameplay and systems using **PIX**, improving client performance on the **Xbox One** by **40%** and reducing server bandwidth by **20%**

**Floyd County Productions | Unity Developer** Jan. 2017 – June 2017

- Developed an **AR** game for FX Network's "Archer" for iOS/Android using **C#** and **Unity**
- Designed and implemented the **achievement system's** architecture, **backend** logic, and **user interface**, delivering a fully functional player reward system
- Applied **asset optimization** strategies, including storage reduction and bandwidth **compression**, for seamless continuous delivery to mobile devices

**General Dynamics Mission Systems | Modeling & Simulation Software Engineer (Co-op)** Oct. 2013 – July 2015

- Designed and implemented a highly customizable front-end web framework in **Java**, generating websites using **HTML**, **CSS**, and **JavaScript**, allowing for rapid deployment of Learning Management Systems for customers
- **Automated** end-to-end **testing** of training modules, reducing manual testing time by **80%**