

# Matthew Nelson

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Carlsbad, CA, 92008

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## Gameplay Software Engineer

Senior level, versatile and results-driven engineer with a proven experience in the video game, GIS and simulation industries. Expertise in Unreal Engine, Unity, C++, and C#, with deep experience in AR | VR. Recognized for collaborative leadership, problem-solving, and a drive for continuous learning and innovation across a wide range of platforms and technologies.

## Areas of Expertise

Software Engineer | Gameplay Systems | Multiplayer Architecture | GIS Integration | Spatial Computing | AI | Augmented Reality (AR) | Virtual Reality (VR) | Test Automation | Math and Physics | Team Collaboration

## Professional Experience

**Warner Bros. Games**, San Diego, CA

**February 2023 - April 2025**

### Gameplay Software Engineer

Led development of a scalable, server-authoritative combat system in UE5, significantly enhancing multiplayer gameplay and reliability.

- Collaborated cross-functionally to build robust combat features and developer testing tools, including AI-driven gameplay bots.
- Created a dynamic feature flag system with a web dashboard, empowering engineers to isolate bugs and reduce integration risk.
- Implemented core gameplay systems working on a high-performing engineering project team.

**Esri**, Redlands, CA

**June 2018 - February 2023**

### Senior Software Engineer

Developed and maintained the ArcGIS Maps SDK for Unity and Unreal Engine, allowing real-time integration of global 3D GIS data into game engines.

- Designed an interop system connecting the core C++ library to Unity and Unreal platforms, optimizing performance and modularity.
- Built automated test suites for PR validation and daily builds; supported deployment across mobile, desktop, XR headsets, and an XR stage.
- Created interactive conference demos, including a spatial XR experience: <https://www.youtube.com/watch?v=XfPGeLaAQyQ>
- Spearheaded open-source sample repos to highlight SDK usage and best practices.
- Presented at international developer conferences to maintain a high public profile for developer engagement. [https://mediaspace.esri.com/playlist/dedicated/250241443/1\\_jzw4qgwy/1\\_8t26zg1r](https://mediaspace.esri.com/playlist/dedicated/250241443/1_jzw4qgwy/1_8t26zg1r)
- Won three consecutive company-wide hackathons with novel AR/VR prototypes featured on LinkedIn.

## Internships

**September 2014 - August 2017**

Participated in several internships during college to ensure hands-on experience in software development to prepare for work in the field.

- Full-stack developer for an internal enterprise sales platform - Dell
- Developed a policy aggregation web tool for insurance agents - Sentry Insurance
- Researched exploring 3D time-varying point cloud visualizations in VR - UW Madison Living Environments Lab

## Technical Skills

**Languages and Engines:** C++ | C# | C | Unity | Unreal Engine | Java | Lua | Swift | Kotlin | JavaScript | Python

**Tools and Platforms:** Visual Studio | Git | Jenkins | XR (VR and AR) | Simulation | Embedded Systems

## Education

**Bachelor of Science (B.S.) Computer Engineering and Computer Science** - College of Engineering, Dean's List  
University of Wisconsin - Madison