

Interactive developer with project experience in browser-based 3D, historical cartographic visualization, location-aware augmented reality, and procedural systems. Builds interactive prototypes with React, TypeScript, Three.js, Unity, and Unreal Engine, combining programming, visual design, and real-time graphics. Interested in applying these skills to urban visualization and public-facing spatial experiences.

PROFESSIONAL SKILLS

Web Development	Data Visualization	Particle Systems & Shaders
3D and Interactive Systems	Real-Time Optimization	Procedural Generation

SELECTED PROJECTS

Tachyon - Multiplayer Vehicle Shooter Videogame Mar 2026 - Aug 2026

- Built a web-based interactive 3D simulation prototype combining camera controls, configurable parameters, and a telemetry dashboard.
- Implemented 3D asset-loading workflows for GLTF, OBJ, and FBX models, including scene positioning, scaling, and a custom GLSL visualization shader.
- Optimized real-time Niagara VFX, including a fluid-simulated fire exhaust, using controlled simulation bounds, culling, LODs, and adaptive grid resolution to balance visual fidelity with GPU performance.

Urban Expansion of Medellín - Historical Cartographic Visualization Jan 2025 - Jul 2025

- Researched and visually reconstructed more than five centuries of urban growth in Medellín and the Aburrá Valley using historical maps, satellite imagery, and documentary sources.
- Produced a frame-by-frame cartographic animation that translates territorial change into an accessible visual narrative, reaching more than two million views across social platforms.

Realm Sandbox - Procedural World Generation Aug 2024 - Dec 2024

- Engineered a 2D pixel art procedural terrain generation system inspired by decision trees, effectively balancing the main algorithm with runtime performance constraints.
- Architected an emblem and flag generation system utilizing variable sprites and materials to represent unique, interconnected procedural cultures.
- Built a city minimap generator using Perlin noise and Voronoi diagrams.

Medellin Spectral Tour - AR Gamified Experience Jul 2024 - Nov 2024

- Integrated Mapbox into a Unity-based augmented reality application, enabling real-time geolocation for an interactive cultural heritage experience in Medellín.
- Successfully integrated Augmented Reality SDKs, resolving dependency conflicts to deliver a stable, award-winning mobile experience.

EDUCATION

Diploma in Programming for Games, Web & Mobile Aug 2025 - Aug 2026

Vancouver Film School, Canada

Bachelor of Digital Entertainment Design Engineering Jan 2021 - Oct 2026

Universidad Pontificia Bolivariana, Colombia

TOOLS

Javascript & Typescript
Three.js & React
Mapbox & QGIS
Atlassian: Confluence & Jira
Unreal Engine 5 & Unity Engine
Google Colab & Firebase

ADDITIONAL INFORMATION

Awards:

- Best Interactive Experience — DEX Showcase (2024)
- Highest GPA Scholarship - Universidad Pontificia Bolivariana (2024)

Languages:

- English — Professional working proficiency, spoken and written
- Spanish — Native proficiency