

TOBÍAS ARRIETA

SOFTWARE ENGINEER

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Digital Entertainment Design Engineer specializing in interactive mapping, mobile applications, web development, and collaborative workflows. Experienced in combining design and programming to build software architectures, deploy cloud services, and manage databases. Motivated to take on strategic, high-impact responsibilities.

PROFESSIONAL SKILLS

- Python, JS, C# & C++
- Data analysis
- Machine learning
- Cloud computing
- Optimization & performance
- Web & mobile development

EXPERIENCE & SELECTED PROJECTS

Tachyon - Multiplayer Vehicle Shooter **Mar 2026 - Aug 2026**

- Implemented visual effects for core gameplay actions and all 6 unique abilities, ensuring gameplay clarity and visual impact through parameterized materials.
- Optimized real-time visual systems with Niagara, including a fire afterburner driven by real-time fluid simulation, using simulation bounds, culling, LOD, and adaptive grid resolution to balance visual fidelity and memory efficiency.
- Designed the core gameplay experience, developing mechanics and dynamics to establish a distinctive identity and game feel within the genre.

Jovian Nightmare - Space Combat Game **Nov 2025 - Feb 2026**

- Developed a configurable Killzone system using a lightweight radial projection and adjustable VFX, ensuring clear player feedback and intuitive spatial awareness.
- Built dynamic screen shaders and post-processing volumes driven by player data, alongside cinematic destruction sequences integrated with physics.
- Automated asteroid management with a modular tool featuring fully adjustable spawning controls and collision-driven fragmentation, enabling level designers to iterate directly on the system.

Urban Expansion of Medellín - Digital Animation **Jan 2025 - Jul 2025**

- Transformed complex historical and geographic information into an accessible visual narrative through frame-by-frame animation, cross-referenced with institutional documentary sources.
- Combined data visualization, georeferencing, and audiovisual design to communicate the region's territorial evolution across more than five centuries of change.
- Reached over two million views on social media after publication.

Realm Sandbox - Procedural Medieval World Simulator **Aug 2024 - Dec 2024**

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

Medellin Spectral Tour - AR Tourism Experience **Jul 2024 - Nov 2024**

- Led the app's backend development and Mapbox integration in Unity, enabling real-time geolocation linked to the interface.
- Integrated augmented reality SDKs, resolving dependency conflicts to deliver an institutionally recognized mobile experience.

TOOLS

- Unreal Engine 5 & Unity Engine
- Atlassian: Confluence & Jira
- MySQL & MongoDB
- Google Cloud & AWS
- Visual Studio & Rider
- Blender & Autodesk Maya
- Miro & Figma

INTERESTS

- Strategy games
- Meditation
- History & cartography
- Pedagogy
- Mead fermenting
- Martial arts
- Aviation

EDUCATION

Associate's Degree - Programming for Games, Web & Mobile **Aug 2025 - Aug 2026**

Vancouver Film School, Canada

- Intensive 12-month program with over 1,030 hours of lectures, labs, seminars, and hands-on production with international multidisciplinary teams.

Bachelor of Digital Entertainment Design Engineering **Jan 2021 - Oct 2026**

Universidad Pontificia Bolivariana, Medellín

- Participated in over 7 semester-long collaborative workshops, developing complete interactive products from concept to public exhibition.

ADDITIONAL INFORMATION

Awards:

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

Languages:

- English — Professional working proficiency, spoken and written / TOEFL iBT C1
- Spanish — Native

REFERENCES

Juan Fernando Franco Higuita
Electronics Engineer

- Master's Degree in Embedded Systems
- Full Professor - Universidad Pontificia Bolivariana
- Contact: +57 300 6186966

Óscar Alejandro Machado Toro
Mechanical Engineer

- General Manager - Automotor.co SAS
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CONTACT

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