Rafael Martínez Gordillo

Senior Game Developer • Gameplay & AI Systems Engineer
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Senior Game Developer with 8+ years of experience building 2D/3D games, gameplay systems, and AI for both indie and large-scale titles. Contributor to the Godot Engine with deep expertise in AI behavior systems, navigation, procedural generation, combat mechanics, and performance optimization. Proven ability to ship games end-to-end, lead development teams, and deliver scalable features in Godot and Unreal Engine.

PROFESSIONAL EXPERIENCE

Freelance Game & Tools Developer
Jul 2025 – Present
- Developing a **CDLOD terrain system** for Godot, optimizing large-scale landscapes for real-time runtime performance.
- Building **Space Adventure**, an arcade game for web and Android, implementing gameplay systems, UI, and mobile adaptability.

Metagravity - Lead Programmer & AI Programmer (Remote)
Mar 2022 – Jun 2025
Edge of Chaos: Dungeons. Lead Programmer & Game Designer (Godot)
- Shipped a retro-style dungeon crawler for the web as the sole initial programmer, owning the full gameplay stack.
- Implemented all core systems: custom navigation, combat mechanics, state-machine and behavior-tree AI, shaders, procedural level generation, UI, and tools.
- Later led a team of programmers, reviewing code, defining architecture, and guiding integration of Web3 systems.
- Delivered a stable launch build with optimized rendering and AI logic for browser environments.

Edge of Chaos. AI Programmer (Unreal Engine)
- Designed and implemented AI using Hierarchical Task Networks (HTN) to simulate human-like player behavior.
- Contributed to large-scale battle simulations, supporting 2,000+ concurrent agents (bots + players).
- Improved AI decision-making performance and reduced CPU load through optimized task planning and perception systems.

Freelance Game - Developer & Programmer
Jan 2019 – Feb 2022
- Main programmer for platformers **Underctrl** and **Right Knight**, implementing movement systems, enemy AI, level logic, and UI.
- Contributed to the action game Ubercold, focusing on bug fixing, quality improvements, and gameplay polish.
- Made multiple contributions to the **Godot Engine**, especially GridMap improvements and physics bug fixes.
- Developed backend modules and maintained web platforms for e-learning companies using PHP, JavaScript, and custom CMS tools.

CINaM, Marseille - Post-Doctoral Researcher
Jan 2015 – Oct 2018
  - Modeled and simulated electronic behavior in layered nano-materials using high-performance computing.
  - Published research and presented at international scientific conferences.

EDUCATION

PhD in Physics
Catalan Institute of Nanoscience and Nanotechnology. Barcelona, Spain
Oct 2014

TECHNICAL SKILLS

Engines: Godot (core contributor), Unreal Engine
Gameplay: AI systems (HTN, behavior trees, state machines), navigation, combat, procedural generation, physics, UI
Graphics: Shaders, rendering optimization, Blender, Inkscape
Languages: C++, GDScript, C#, Python, Java, JavaScript, PHP
Tools: Git, Linux, profiling/debugging tools, custom engine extensions (GDExtension)
Other: cadCAD complex systems simulation, backend modules, web development fundamentals