Rodrigo Galdamez

Senior Technical Artist

Rendering | Tools | Pipelines | Unreal Engine 5 Specialist

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PROFESSIONAL SUMMARY

Senior Technical Artist with 15 years of experience developing real-time content, rendering workflows, production tools, and technical art pipelines across game development, virtual reality, mobile platforms, and large-scale simulation. Strong Unreal Engine 5 background spanning rendering optimization, materials and shaders, lighting, Lumen, Nanite, Niagara, procedural environments, asset validation, content automation, and scalable production workflows. Builds and optimizes content for hardware ranging from mobile and VR platforms to high-end real-time simulation systems. Contributed to simulation and visualization products used by Toyota, Audi, Fiat, Porsche, Ferrari, and Mercedes-AMG through Arene, VI-WorldSim, and VI-DriveSim. Developed production workflows and real-time content across prototype, production, and release stages, including Redpill VR's Aurora social platform. Bridges art and engineering through technical problem-solving, pipeline development, automation, documentation, and cross-functional collaboration.

AREAS OF EXPERTISE

Unreal Engine 5 · Real-Time Rendering · Rendering Optimization · Technical Art Pipelines · Tools and Automation · Materials and Shader Authoring · Lumen · Nanite · Niagara · Procedural Environments · Asset Optimization · Performance Profiling · Blender Tool Development · Python · MEL · Houdini · Data Prep · Datasmith · Packaging and Cooking · Asset Validation · Virtual Reality · Automotive Simulation · Team Leadership

PROFESSIONAL EXPERIENCE

Senior Technical Artist

Woven by Toyota
Tokyo, Japan · On-site
January 2025 – Present

- Design, develop, and maintain rendering workflows and asset libraries for an internal Unreal Engine 5 vehicle simulation platform within Toyota's Arene Reactor team, supporting software development and validation for the all-new 2026 Toyota RAV4.
- Build, migrate, and optimize large-scale maps and simulation assets, integrating vehicles, pedestrians, lighting, weather systems, and CARLA-based content into Unreal Engine 5.
- Design and maintain pipelines for asset cooking, packaging, validation, and publishing, enabling cross-team use of Unreal Engine 5 content libraries.
- Modernize rendering workflows through Lumen and Nanite adoption while improving rendering performance, package size, and loading efficiency.
- Develop automated asset-production and validation workflows to strengthen content quality, rendering consistency, and platform stability.
- Build internal Blender plugins and Unreal Engine 5 Python tools that streamline asset preparation and recurring production tasks.
- Author technical documentation, rendering guidelines, and workflow runbooks for developers and internal customers.
- Coordinate with legal and intellectual-property teams on asset licensing and content-compliance workflows.

Senior Technical Artist

VI-grade
Udine, Italy · Remote
June 2022 – January 2024

- Designed and optimized real-time 3D assets, environments, and rendering workflows in Unreal Engine 5 for VI-WorldSim and VI-DriveSim.
- Supported simulation and visualization products used by Audi, Fiat, Porsche, Ferrari, and Mercedes-AMG.
- Co-designed production pipelines for vehicle assets and Chaos physics simulation-data preparation.
- Developed Data Prep, Datasmith, and custom pipeline tools for scalable asset importing and content preparation.
- Established asset-production workflows across Blender and Maya.
- Coordinated with engineers, artists, and technical stakeholders to balance visual quality, technical reliability, and production efficiency.
- Evaluated Unreal Engine 5 Nanite workflows and asset-optimization strategies through technical research and prototyping.
- Authored documentation for proprietary SDKs, simulation workflows, and third-party content pipelines.

Senior Technical Artist

Redpill VR

Los Angeles, California, USA · Remote
August 2017 – June 2022

- Contributed to the development and 2019 release of Aurora and to Redpill VR's E3 2019 showcase, following earlier contractor work in 2016 on POCs and demonstrations for CES and OC3.
- Implemented and optimized real-time materials, shaders, rendering techniques, and content workflows for VR production.
- Integrated custom HLSL shaders and visual-effects systems.
- Automated production workflows through Maya tools and technical-art scripting.
- Created terrain systems and procedurally populated foliage optimized for real-time performance.
- Built rigging and animation-retargeting workflows for characters and NPCs.
- Integrated standard and inverse-kinematics animation systems in Unreal Engine Animation Blueprints.

Technical Artist

Vertex Studio (now Vertex Group)

San Salvador, El Salvador · On-site
April 2016 – July 2017

- Led the 3D content team for virtual-reality prototypes and interactive product demonstrations.
- Managed and mentored artists while establishing technical-art standards and production practices.
- Built multiple VR prototypes and product proofs of concept.
- Developed Unreal Engine 4 workflows using NVIDIA HairWorks and NVIDIA Flex.

Technical Artist

Beyond Games

San Francisco, California, USA · Remote
October 2013 – April 2016

- Led the art team for Battle Strike Force prototypes and introduced physically based rendering materials and workflows.
- Managed motion-capture and animation research and development to strengthen content-production workflows.
- Coordinated production tasks and sprint planning through Jira and Trello.

3D Artist

InEarth Central

San Salvador, El Salvador · On-site
January 2011 – October 2012

- Created low-polygon models and hand-painted textures for mobile and independent Unity projects.
- Produced user-interface assets and 2D visual effects.
- Optimized assets for mobile hardware and real-time performance constraints.

EDUCATION

Associate Degree

Universidad Don Bosco

Graphic Design
San Salvador, El Salvador
2010 – 2012

TECHNICAL SKILLS

Engines & Rendering: Unreal Engine 4 & 5, Unity, Real-Time Rendering, Rendering Optimization, Performance Profiling, Lumen, Nanite, Niagara, Lighting, Materials, Shader Authoring, HLSL

Tools & Automation: Python, MEL, Unreal Engine Python, Blender Plugin Development, Maya Tools, Houdini Procedural Workflows, Data Prep, Datasmith, Pipeline Automation, Asset Validation

Content Production: Blender, Maya, Houdini, ZBrush, 3ds Max, Substance Painter, Quixel Suite, Terrain Systems, Procedural Environments, Procedural Content Generation, Animation Retargeting, Rigging, VFX

Pipelines & Platforms: Unreal Engine Packaging & Cooking, Git, Perforce, Linux-based Unreal Engine 5 Workflows, Docker, Containerized Workflows, Mobile Optimization, Virtual Reality, Automotive Simulation

Leadership & Collaboration: Cross-Functional Collaboration, Technical Documentation, Team Leadership, Artist Mentorship, Production Planning