

KEUNHAE B. USHIRODA

SENIOR 3D TECHNICAL ARTIST / REAL-TIME 3D PIPELINE ENGINEER
BLENDER · CAD-TO-REAL-TIME · PRODUCT VISUALIZATION · 3D ASSET OPTIMIZATION · AI-ASSISTED AUTOMATION

SUMMARY Senior 3D Technical Artist and Real-Time 3D Pipeline Engineer with 13+ years of experience creating high-quality assets and production workflows for product visualization, simulation, metaverse, web, and interactive real-time platforms. Experienced in transforming complex CAD, LiDAR, photogrammetry, and dense source data into optimized, visually polished runtime assets using Blender, Maya, Unity, and Houdini.

Strong hands-on background in hard-surface modeling, mesh cleanup and optimization, UV mapping, PBR materials, texture development, animation integration, and GLB/glTF delivery. Developed tools and AI-assisted workflows that improved artist productivity, asset quality, and production consistency. Experienced in collaborating with design, product, engineering, AI research, and global production teams to deliver polished, performant 3D experiences.

CORE SKILLS Blender · Real-Time 3D Asset Production · CAD-to-Real-Time Workflows · Complex CAD Simplification · Hard-Surface Modeling · Mesh Cleanup, Simplification & Optimization · UV Mapping · PBR Materials & Real-Time Surfacing · Texture Development & Optimization · Photorealistic Product Visualization · Animation Integration · Runtime Performance Optimization · DCC-to-Runtime Workflows · GLB/glTF Validation · Production QA · Maya · Unity · Houdini · Python Scripting for Workflow Support · AI-Assisted 3D Asset Pipeline Integration · Material Consistency Automation · Adobe Photoshop · Adobe Premiere Pro · Photogrammetry · LiDAR Point Cloud Processing · Real-World Environment Reconstruction · Large-Scale Simulation Map Production

PROFESSIONAL EXPERIENCE **LG Electronics** — Santa Clara, CA

Senior Software Engineer, 3D Pipeline & Real-Time Web Visualization | Sep 2022 – Present

- Led CAD-to-real-time production workflows, transforming complex product CAD data into optimized, animated, photorealistic GLB/glTF assets for interactive web and product visualization experiences.
- Created, refined, and validated real-time 3D product assets in Blender, including geometry cleanup, mesh simplification, UV correction, material and texture refinement, hierarchy and pivot setup, animation integration, and runtime optimization.
- Collaborated with design, product, engineering, AI research, and global production teams to translate visual references and technical requirements into polished, performant real-time assets.
- Evaluated automated material, texture, animation, mesh generation, and asset-reuse outputs, identified failure cases, and provided production-focused feedback to improve tool quality and consistency.
- Developed and refined Python scripts, Blender automation, and AI-assisted workflows for asset processing, material matching, pipeline troubleshooting, and repetitive production tasks.

- Owned end-to-end production QA and runtime validation across materials, UVs, geometry, hierarchy, pivots, scale, animation, transparency, compression, optimization, and GLB/glTF export.

Senior 3D Artist, Simulation Environments | Jan 2019 – Sep 2022

- Created and optimized reusable real-time 3D assets for autonomous-driving simulation, including vehicles, pedestrians, traffic participants, obstacles, props, buildings, and environmental elements.
- Built large-scale Unity environments in the U.S. and Korea from LiDAR point clouds, camera–LiDAR fused reconstruction data, photogrammetry, dense source meshes, and visual references.
- Converted complex reconstruction data into clean, lightweight, runtime-efficient geometry with accurate UVs, transferred RGB/color data, refined textures, and optimized performance.
- Managed the LGSVL Simulator map library, integrating, maintaining, and validating large-scale real-world environments for autonomous-driving simulation.
- Configured Unity simulation environments with lane and path data, traffic signals, road-network elements, traffic-participant metadata, environment assets, and other simulation-specific scene information.
- Partnered with engineering teams on mapping, procedural-environment, and simulation-pipeline tools by testing outputs, identifying workflow gaps, validating results, and providing production-focused feedback.

Aptiv via Tech Talenta — Senior 3D Modeler, Autonomous Driving Simulation Mountain View, CA | Oct 2017 – Dec 2018

- Created and optimized large-scale real-time 3D environments for autonomous-driving simulation using Maya, Unity, LiDAR scans, photogrammetry, and real-world reference data.
- Built scalable map-production workflows by combining manually modeled geometry, procedural tools, and scan-based source data.
- Prepared and optimized geometry, textures, environment assets, and scene data for runtime performance and simulation use.
- Tools: Maya, Unity, ZBrush, ReCap Pro, Agisoft, 3DReshaper, Adobe Photoshop, Adobe Premiere Pro, and VeloView.

Apple via Apex Systems — 3D Modeler, Data and Touch-Up Artist Cupertino, CA | Oct 2016 – Sep 2017

- Created and refined high-accuracy 3D city and mapping assets using proprietary internal tools, Maya, and ZBrush.
- Validated spatial and visual accuracy using geospatial data, reference imagery, and real-world visual references.
- Supported the production team through a contract transition by providing workflow guidance, internal-tool support, QA review, and production troubleshooting.

Apple via Mindlance — 3D Modeler, Data and Touch-Up Artist
San Jose, CA | Sep 2014 – Oct 2016

- Created hard-surface and organic 3D assets for large-scale 3D mapping and cityscape environments.
- Used proprietary internal tools to build, clean up, and refine high-accuracy city and environment geometry.
- Resolved production issues caused by tool and workflow limitations while maintaining visual and spatial accuracy.

Tate Mode Entertainment — Lead 3D Artist
Los Angeles, CA | Jun 2013 – Aug 2014

- Led 3D asset production for a Unity-based game project, including characters, environments, vehicles, props, and logo assets.
- Created, textured, and optimized game-ready assets using Maya, ZBrush, Mudbox, and Photoshop.

PUBLICATIONS
& SELECTED
PUBLIC WORK

LGSVL Simulator: A High Fidelity Simulator for Autonomous Driving
Co-author, IEEE, 2020

Contributed to large-scale real-time simulation environment production and reusable 3D asset workflows.

IEEE Xplore: <https://ieeexplore.ieee.org/abstract/document/9294422>

AI Automation for Material Consistency in Industrial 3D Assets
Co-author, Expert Systems with Applications, 2026
DOI: 10.1016/j.eswa.2026.132183

Contributed project visuals and 3D production expertise, clarified the end-to-end industrial asset workflow, and collaborated on identifying gaps and improving the AI-assisted material-matching process.

ScienceDirect: <https://www.sciencedirect.com/science/article/abs/pii/S0957417426010961>

RetailVerse — Real-Time Web 3D Product Visualization
LG Electronics

Supported CAD-to-real-time production workflows for interactive web 3D product visualization, including Blender material refinement, GLB/glTF validation, product animation, asset optimization, and production QA.

<https://www.lg.com/us/press-release/lg-electronics-unveils-retailverse-tranforming-e-commerce-with-immersive-ai-enabled-3d-product-experiences>

EDUCATION

Full Sail University — Bachelor of Science in Computer Animation
Dec 2011 | Valedictorian

Course Director's Awards: Methods of Design, Model Creation, Character Animation

Colorado State University Pueblo — Bachelor of Science in Fine Art
Minor: Computer Information Systems