

Siva Nagendra Savarapu

Senior Pipeline Engineer · Generative AI & 3D Systems · OpenUSD · Unreal Engine · Python/C++

📍 Vancouver, Canada 📞 +1 604 754 9642 ✉️ siva_nagendra@outlook.com

🌐 sivasavarapu.com 🌐 linkedin.com/in/sivanagendra

👤 SUMMARY

Senior Pipeline Engineer with 10+ years building production infrastructure for leading VFX and game studios including Epic Games, Sony Pictures Imageworks, Animal Logic, and MPC. Strong background in OpenUSD, Python/C++, PyTorch, TensorFlow, computer vision, and DCC integration across Unreal Engine, Maya, and Houdini. At Epic Games, helped bring Model Context Protocol (MCP) into studio production, contributed to the GenStudio AI platform, and built an agentic C++ Unreal Engine runtime combining Claude, Gemini, Depth Pro, Grounding DINO, SAM2, and mesh generation models into a prompt-driven 3D scene construction workflow. Seeking senior roles across pipeline engineering, ML/AI, and technical AI for 3D, VFX, and game production.

📁 EXPERIENCE



Senior Pipeline Engineer - Epic Games

📅 May 2025 - Mar 2026 · 📍 Vancouver, Canada



- Worked on a team building the **Fortnite** asset pipeline spanning Modelling, Texturing, Rigging, and Animation, engineering Python and C++ tools across Maya and Unreal Engine including a Rig Browser via OpenAssetIO, Maya to UE animation import/export, and ShotGrid production tracking automation to accelerate asset creation and eliminate manual handoff overhead across all departments.
- Designed and deployed **Model Context Protocol (MCP) servers for Maya and Unreal Engine**, integrating Claude Code into Epic's live production pipeline, among the earliest production MCP deployments at a major game studio.
- Engineered a **C++ Unreal Engine Runtime prototype** combining Claude (Anthropic Agent SDK) with UE MCP, Gemini/Meshy/Tripo for mesh generation, Depth Pro for depth estimation, Grounding DINO for object detection, and SAM2 for segmentation, delivering an end-to-end agentic 3D scene construction system from a single user prompt or image with mesh placement via a custom raycasting algorithm and GLTF plugin.
- Contributed to **GenStudio**, an internal generative AI product integrating Gemini, OpenAI image models, Meshy, Tripo, and Rodin mesh generation models for AI-assisted 3D asset creation workflows.
- Built a **RAG-powered pipeline assistant** that auto-generates visual workflow graphs (analogous to UE Blueprints) from natural language queries, with a custom RAG backend built on internal pipeline documentation.
- Implemented **C2PA content provenance workflows** across GenStudio, ensuring cryptographic content credential tracking for all AI-generated image outputs in compliance with emerging content authenticity standards.




Senior Software Engineer - Sony Pictures Imageworks

📅 Jul 2023 - May 2025 · 📍 Vancouver, Canada

- Engineered an **OpenUSD and Alembic-based asset transfer pipeline from Houdini to Unreal Engine**, preserving textures, materials, and animation data through the full handoff, significantly accelerating the real-time layout process by eliminating manual re-assembly of assets inside UE.
- Built and maintained OpenUSD pipelines for VFX and Animation productions using Python, C++, and PySide6, covering asset and shot workflows across Modelling, Layout, and Animation departments.
- Developed DCC integrations across Maya, Houdini, and Unreal Engine ensuring pipeline data interoperability and compatibility across departments and studios.
- Designed modular show-specific tools in PySide6 and web frameworks deployed inside Maya and Unreal Engine based on production requirements.
- Contributed to productions including **Fantastic Four: First Steps** and **KPop Demon Hunters**.

 **Core Assets Pipeline Technical Director - Animal Logic**  Aug 2021 - May 2023 ·  Sydney, Australia

- Developed and maintained core Asset Pipeline systems using Pixar's USD, Houdini, Maya, and Python, including USD schema extensions and pipeline plugin development.
- Designed UsdShade material workflows to improve USD data read/write fidelity; improved USD Assembly pipeline for environment workflows and asset validation systems.
- Contributed heavily to USD texture/material workflows for the **ALab public dataset release**.
- Enhanced Houdini UX for artists via Python and PySide6 tooling, reducing friction in day-to-day pipeline interactions.

 **Technical Director - MPC Film**  Nov 2018 - Jul 2021 ·  Bangalore, India

- Built a Real-Time Asset presentation pipeline in Unreal Engine and developed MPC's core production pipeline tools using Python and PySide6, supporting artists across Rigging, Groom, Lighting, and FX departments.
- Built ION containers to manage reproducible software environments across shows.
- Contributed to productions including **WandaVision** and **Top Gun: Maverick**.


 **Texture & Lookdev Artist - Rhythm & Hues / Prana Studios**  Sep 2015 - Nov 2018 ·  Mumbai, India


- Worked on **Hellboy (2019)**, **2.0 (2019)**, Fear the Walking Dead, and additional productions.
- Developed Lookdev and Lighting workflows with ImageEngine's Gaffer; trained the team in Gaffer, Substance Painter, and Mari.
- Worked on Unreal Engine and Unity for Previz and real-time VR projects.

EDUCATION

 **Bachelor's Degree, Computer Science** - Acharya Nagarjuna University, India · 2013 - 2016


SKILLS


 **Languages:** Python, C++, MEL, JavaScript


 **AI/ML:** PyTorch, TensorFlow, Computer Vision, Multimodal AI, LLMs, RAG, MCP, Diffusion Models, Grounding DINO, Depth Pro, SAM2, Embeddings, C2PA

 **UI Frameworks:** PySide6/Qt6, web frameworks

 **Tools:** Git, GitHub, Docker, GLTF

 **AI APIs & SDKs:** Anthropic Agent SDK, OpenAI API, Gemini API, Hugging Face, Meshy, Tripo, Rodin

 **Pipeline & DCCs:** OpenUSD, OpenAssetIO, ShotGrid, Maya, Houdini, Unreal Engine, Nuke, Gaffer, Alembic

 **Rendering & Real-Time:** UE5, PBR workflows, Arnold, Renderman, Substance Painter/Designer, Virtual Production