

Daniel Sebastian Moreno
OpenUSD Developer & 3D Pipeline Engineer

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Overview

OpenUSD developer and 3D pipeline engineer building procedural neural circuit visualizations in NVIDIA Omniverse — custom USD schemas, UsdGeomPointInstancer-based neuron and circuit placement, and Python-automated animation systems that model biological signal propagation in 3D. A clinical psychology background (M.S.) grounds this work in real neuroscience and clinical concepts; hands-on pipeline engineering makes it production-relevant. Technical depth across Python, Linux GPU workstations, Isaac Sim, Houdini, and cloud infrastructure, with continuous hands-on learning as new simulation and pipeline tools ship.

Core Skills

3D / USD Pipeline: OpenUSD · USD Schemas · Hydra · UsdGeomPointInstancer · NVIDIA Omniverse · Isaac Sim · NVIDIA Cosmos · Houdini · Blender · Procedural Geometry · Synthetic Data Generation

Programming: Python · JavaScript · Bash · Swift/SwiftUI

Infrastructure: Linux (Ubuntu) · GPU Workstation Admin · SSH · Git/GitHub · GCP · Docker

Domain: Clinical Psychology · Neural Circuit Visualization · 3D Scientific Visualization · Technical Direction

Featured Project — Neuroscience 3D Simulation Research

Independent Project — Neural Circuit Simulation | Human Nature Tech | 2024–Present

- Building procedural 3D representations of neural circuits in NVIDIA Omniverse using OpenUSD — authoring custom USD schemas and UsdGeomPointInstancer configurations to place and distribute neuron and circuit geometry
- Using Python-driven animation to explore multiple levels of neuron structure — from dendritic branching to circuit-level signal propagation; scaling this to larger, higher-density circuit models is a current goal, not yet achieved
- Independent (self-directed, non-institutional) research into disease-state circuit degradation, with an active focus on Alzheimer's-related circuit changes
- Operating a Linux-based GPU workstation (RTX 5060, Ubuntu dual-boot) for rendering pipelines, hands-on Isaac Sim work, and early synthetic-dataset exploration with NVIDIA Cosmos
- Bridging a clinical psychology background with USD pipeline engineering to produce simulation assets that are grounded in real science and built to be production-pipeline compatible

Professional Experience

Full-Stack Developer & AI Systems Engineer | Shane Bruce Office | Feb 2025–Present |
Carbondale, Illinois — CONFIRM: still current / remote

- Architected backend AI pipelines (RAG, LLM APIs, Firebase) for a therapist-client analytics platform
- Led full-stack development using Next.js, Google Cloud, and Firebase; managed deployment, environment configuration, and iterative debugging across cloud and Linux environments

Graphic & 3D Environment Designer | Permaculture Project LLC | 2024–2025

- Integrated CAD source files (Vectorworks) into 3D scene pipelines; delivered client-facing environment visualizations for architectural and landscape planning
- Produced procedural 3D layouts and 2D graphic assets for master-plan proposals — farms, community facilities, private properties

Web Developer, Technical Designer & XR Developer | True Nature Yoga | 2023–Feb 2026 |
Carbondale, Illinois

- Designed and deployed augmented reality and immersive digital experiences for Yoga studio
- Built and maintained the studio's web platform; sole technical contact for hardware, software, and connectivity issues

Founder & Technical Lead | Human Nature Tech | June 2023–Present | *Los Angeles, CA*

- Administered Linux (Ubuntu), macOS, and Windows environments across 12+ client deployments; automated workflows with Python and Bash
- Built iOS apps (Swift/SwiftUI): InnerFlow (health tracking), Farmiculture (farm management), and therapist productivity tooling
- Deployed GCP infrastructure; managed Git/GitHub version control; authored technical documentation and runbooks

Education

****M.S. Clinical Psychology**** — Università di Bologna, Italy · 2014

****B.S. Psychology**** — Universidad del Rosario, Bogotá · 2013

****UX Design Certificate**** — Google Career Certificates · 2023

****OpenUSD Associate Certification**** — NVIDIA / USD Alliance *(In Progress, 2025)*

****50+ Technical Courses**** — Platzi (Linux, Python, ML, Cloud, 3D)

Languages

English · Spanish · Italian