STEPHEN BOILEAU

Technical Artist & Developer — Unreal Engine 5 & Unity | Python / C++ Tools & Pipeline Automation | Rigging & Auto-Rigging · Render Automation · Performance Optimization | Live Entertainment, Robotics & VR

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PROFESSIONAL SUMMARY

Technical artist and developer with 12 years building the tools, pipelines, and real-time systems that art teams and live shows run on. My output is mostly software other people use: render automation, operator interfaces, auto-rigging, artist and designer tools, and the performance work that keeps content inside budget. At Super 78 I'm the only technical person on the team across several concurrent Unreal Engine 5 and Unity productions. I shipped a one-click auto-rig that rigs a mesh in under a minute, was main programmer on a live theme-park character running daily since 2024, and took a failing live show from roughly 13 FPS to above 60 without giving up visual quality.

CORE SKILLS

- **Tools & Pipeline Automation (Python, PyMEL, PyQt, C++):** one-click auto-rig, automated Maya exporters and validators, batch-render orchestration with Slack alerting, designer-facing GUIs, asset-bundle build automation; documentation and standards
- **Unreal Engine 5:** C++, Blueprints and custom Blueprint nodes, UMG operator UI, Sequencer and Movie Render Queue, large-format and 360 stereo rendering (OWL), MetaHuman, PCG, multi-camera real-time rendering, live camera feeds
- **Character Rigging & Animation:** skeleton setup and joint placement, skinning, FK/IK with stretch, reverse-foot, twist joints, blendshapes and correctives; directing motion capture (Rokoko suit, markerless video), clean-up, and retargeting into Unreal; facial mocap cleanup
- **Performance Optimization:** profiling GPU, CPU, and memory; LODs and HLODs, draw-call, texture and material reduction, shadow and lighting optimization, occlusion culling and streaming; holding visual targets from high-end PC down to mobile, VR, and embedded hardware
- **Unity & Cross-Platform:** C#, Unity 6, Netcode for GameObjects, Meta Quest VR, Android and iOS, embedded devices; asset bundles and runtime streaming; TouchDesigner and OpenCV for interactive installations
- **Production Infrastructure & Collaboration:** Perforce (Helix Core) administration including a P4 server on Linux in Google Cloud, Git/GitHub, Plastic SCM, Jira (Agile workflow); CAD/SolidWorks-to-real-time asset prep; technical liaison across art, engineering, and clients; mentoring; agentic AI coding (Claude Code) in production

PROFESSIONAL EXPERIENCE

Super 78 — Technical Artist & Developer

Los Angeles, CA | December 2021 – Present

- Sole technical person on a cross-discipline team across concurrent Unreal Engine 5 and Unity productions — own engine and architecture decisions, build the tools the art team uses daily, mentor junior developers.
- Wrote the Python automation around Movie Render Queue that runs 1–8 renders a night unattended, converts output to VR-viewable review media, renames and files it by project convention, and posts Slack alerts on completion and failure — reviews ready on a headset before the editor cuts. Also handles large-format render dimensions and 360 stereo.
- Main programmer on a live Unreal Engine 5 character performing daily in a major theme park attraction: C++ and Blueprint show control with custom nodes, 120+ animation sequences, a UMG operator interface run by 12+ performers with no engine experience, live camera feeds for the voice actors, and three character cameras rendered in real time from one machine.
- Own environment optimization on large-scale attraction environments (Dollywood NightFlight Expedition, Sasquatch Mountain) — LODs and HLODs, draw-call and texture reduction, shadow and lighting optimization, culling and streaming, GPU/CPU/memory profiling — to hit visual targets inside performance budgets.
- Built 3–4 Quest VR theater visualizers (Unity) so clients could review in-progress media on to-scale models of their theaters, curved projection surfaces included; clients trained once and reviewed weekly without technical support.
- Direct motion capture of performers (Rokoko, markerless video), clean up and retarget onto production rigs in Unreal; stood up and administer the production's Perforce server on Linux in Google Cloud for 4–5 external vendors plus the internal team.

Embodied Inc. — Technical Artist

Pasadena, CA | June 2018 – December 2021

- Helped ship Moxie, an AI-driven consumer robot with a real-time animated character, from early development through launch on constrained embedded hardware — character rigging, facial and blend-shape animation prep, real-time asset integration and optimization, and C# development.
- Built the Python/PyQt audio pipeline tool designers used to ship sound without an engineering PR: picks approved audio and its Unity asset bundle, files it, normalizes loudness, and scans the JSON conversation markup to build streaming asset bundles so the robot loaded only what an upcoming module needed.
- Wrote the Maya Python script that stripped rigs out of hundreds of animation files to fit the device, and custom FBX exporters used on every animation export — faster, and export errors stopped.
- Worked in an Agile workflow in Jira, with tickets linked to the team's GitHub repositories.

DeepBlue Worlds — Junior Technical Artist

Los Angeles, CA | February 2014 – June 2018

- Built Unity interactive, AR, and educational applications in C# with Maya for Android and iOS — modeling, rigging, animation, real-time integration, and mobile optimization. Sole developer of *Dino on My Desk*, an educational AR app released on Android and iOS in 2016.

Mt. San Antonio College — Lab Technician / Teacher Assistant

Walnut, CA | August 2013 – December 2016

- Assisted instruction in Maya, modeling, animation, and game-development coursework.

SELECTED PROJECTS

Paladin Auto-Rig — Maya & Blender (2026, releasing soon)

- One-click production rig for Mixamo-style skeletons, including Meshy AI characters: FK/IK with stretch, reverse-foot, finger curls, twist joints, skinning; imports Mixamo and mocap animation with additive cleanup; exports game-ready FBX. Drag-and-drop installer creates the Maya shelf button. Hours of rigging in under a minute. Demo at stephenboileau.github.io.

Chimelong Spaceship — Live Show Performance Rescue (Unity, C#)

- Took over as main programmer on an aging codebase running at roughly 13 FPS. Profiled Unity, rewrote large parts of the C# code, optimized the Maya assets, and absorbed the client's show rewrites along the way. Above 60 FPS with no visual changes, performing live for guests daily.

Unity Multiplayer Strategy Game — Solo-Built (in closed beta)

- Online multiplayer turn-based strategy game in Unity 6 for Android and iOS using Netcode for GameObjects — client-server architecture, mobile UI/UX, and performance optimization for low-end devices.

EDUCATION

Mt. San Antonio College — Coursework in Animation, Game Development, and Autodesk Maya