



MOE BADAH

*Virtual Production & Real-Time Developer
Unreal Engine Technical Artist*

ABOUT

Unreal Engine Developer and Technical Artist with 10+ years of experience building real-time tools, pipelines, and production workflows for film, VFX, virtual production, and interactive projects.

I build the Unreal side of production: Blueprint tools, materials, Sequencer and render setups, asset libraries, virtual camera and LED-volume workflows, playback systems, automation for repetitive work, and internal R&D tools.

My work has included building internal Unreal pipelines, artist tools, mocap and visualization workflows, virtual camera and LED-volume setups, large-scale content and asset workflows, and local AI generation tools.

I have worked as both the person building the system and the person responsible for keeping it running when production is live. My background is a mix of technical art, pipeline work, real-time development, and on-set virtual production.

CORE STRENGTHS

Unreal Engine / Real-Time

Unreal Engine • Blueprints • Editor Utility Widgets
• Sequencer • Movie Render Queue • Materials •
Material Instances • Niagara • Control Rig • Asset
Management • Real-Time Rendering • Optimization
• Render & Playback Workflows

Virtual Production

LED Volumes • nDisplay • Camera Tracking •
Virtual Cameras • Motion Capture • OCIO •
Playback Systems • On-Set Unreal Operation

Tools / Pipeline

Artist Tool Development • Blueprint-Based Tools •
Unreal Editor Automation • Asset Processing •
Batch Workflows • Naming & Metadata • Scene
Setup • Asset Libraries • QC & Validation •
Production Support • AI-Assisted Scripting

AI / Generative Workflows

ComfyUI • Local AI Workstations • Image
Generation • Video Generation • 3D Generation •
Reference Processing • Mask-Based Editing •
Automated Model & Runtime Setup • Custom

Desktop UI

Software

Maya • Cinema 4D • Photoshop • After Effects •
Adobe Suite • MadMapper • Lightform Creator •
Ableton Live • Logic Pro • Pro Tools • GitHub •
Perforce • SVN • SourceTree • Trello • Slack

CONTACT DETAILS:

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EMPLOYMENT HISTORY

Lumostage

SENIOR TECHNICAL OPERATOR / UNREAL DEVELOPER JUL 2025 - PRESENT

- Built DreamOn, an internal ComfyUI content pipeline with a custom desktop UI, automated setup, and image, video, 3D, reference-processing, and mask-editing workflows.
- Built a Windows ingest tool for Assimilate Live FX that automated plate loading, metadata extraction, ProRes 422 LT prep, stage and wall mapping, and project setup, replacing repetitive manual ingest work.
- Built a custom Unreal Engine 5 Gaussian Splatting plugin that imports point-cloud assets into Unreal with GPU-driven rendering, lighting, shadows, occlusion, and high-splat-count performance tuning.
- Built Lumostage's internal pipeline for creating, organizing, and deploying reusable real-time assets.
- Serve as the on-set technical operator for LED-volume and virtual production shoots, running Unreal Engine and Assimilate Live FX for scene and plate playback from setup through wrap.
- Diagnose and resolve rendering, tracking, playback, asset, and system issues during live production to keep the stage running and downtime down.

BeloFX

UNREAL PIPELINE ENGINEER MAR 2023 - FEB 2025

- Developed Unreal Engine tools and automation systems for motion-capture processing, asset ingestion, scene visualization, and production workflows.
- Created artist-facing tools that reduced repetitive manual setup and made it easier to bring assets and mocap work into Unreal across multiple projects.
- Built cinematic and virtual-production tools around Sequencer, scene setup, asset preparation, naming, metadata, and validation workflows.
- Expanded internal QC and validation tools, improving consistency and catching delivery issues earlier in the pipeline.
- Built custom virtual camera tools around production needs and improved existing tools from artist and supervisor feedback.
- Developed Unreal tools for non-VFX projects, extending the studio's real-time production capabilities.

Versatile Media

LEAD UNREAL ENGINE DEVELOPER JUL 2022 - MAR 2023

- Led Unreal Engine technical development for virtual production work across multiple productions.
- Designed and maintained core tools supporting virtual cameras, motion capture, camera tracking, playback, and real-time rendering workflows.
- Developed VAD and artist workflow tools that improved usability and reduced setup time under production deadlines.
- Identified and resolved production issues affecting camera tracking, synchronization, playback, rendering, and scene performance.
- Supported on-set virtual production shoots, keeping real-time systems stable through client sessions, live mocap, playback, and renders.

PIXOMONDO

UNREAL ENGINE DEVELOPER MAR 2022 - MAY 2022

- Developed Unreal Engine tools and editor extensions supporting virtual production and animated-content workflows.
- Built an animated imposter generator that made higher-resolution animated assets usable on LED volumes.
- Created asset preparation and library tools that reduced manual setup and improved consistency across scenes.

DistilleryVFX

UNREAL ENGINE REALTIME DEVELOPER NOV 2021 - FEB 2022

- Contributed to the development of Distillery's customized Unreal Engine pipeline for virtual production and real-time visualization.
- Built production tools and workflow systems for virtual scouting and real-time visualization.
- Developed custom interfaces and controls for VAD artists and on-set users, reducing manual setup and making live workflows easier to operate.
- Profiled and optimized scenes, materials, tools, and rendering workflows to maintain real-time performance targets.
- Built shaders, Niagara systems, reusable modules, and a visualization and interaction tool for real-time environments.

Arcana

UNREAL ENGINE DEVELOPER OCT 2020 - NOV 2021

- Built a real-time pipeline that moved offline-rendered work into Unreal, allowing faster review and iteration.
- Developed remote rendering and review workflows that reduced reliance on offline renders for every change.
- Created Blueprint tools for scene setup and real-time content workflows, helping shift projects into a usable real-time pipeline.

ACADEMIC HISTORY

The Art Institute of Vancouver

GAME ART AND DESIGN OCT 2014 - DEC 2016

- Built a multi-platform VR roguelike shooter
- Focused on VR development and learned about the correct approach and techniques to design VR and spatial experiences
- Made SFX, BG music in Ableton & Logic
- Learned about CG pipeline