RÉV O'CONNER

SENIOR TECHNICAL ARTIST AND CHARACTER ARTIST

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PROFESSIONAL SUMMARY

Senior Technical Character Artist with 11 years of CG experience, based in the Himalayan region of India. Specialises in shader optimisation, cross-platform DCC integration, and the development of tooling that bridges traditional 3D applications and game engines.

Notable contributions include the first open-source MetaHuman rig transfer solution for Maya, a topology-based vertex ID transfer tool for 3ds Max (featured on 80.lv), and targeted improvements to the Meta SDK for mixed reality, including corrected glass-surface tracking and the removal of occlusion depth limitations at minimal performance cost. Known for delivering under pressure and resolving complex technical challenges with pragmatic, creative solutions.

RELEVANT WORK EXPERIENCE

Senior Technical Artist (Characters, Shaders, FX, Mixed Reality)

Xreality Group (Red Cartel Division), Sydney (Remote) January 2025 – May 2026

- Identified and co-authored a fix for a bug in the *zallist "Simple Lit" shader graph* implementation for Unity, where opaque shaders rendered as transparent under mixed-reality passthrough.
- Developed a Unity tool for calculating shader variants through a button-driven UI, eliminating the need to run multiple in-game scenarios manually.
- Resolved two defects in the Meta SDK mixed-reality pipeline: distant virtual objects failing to render or occlude correctly, and glass being tracked as an opaque surface in environment depth. The fix added a 16-bit channel to the existing _depthMaskRT buffer to act as an occlusion flag activated on glass surfaces.
- Extended Meta SDK functionality in Unity to support distant virtual objects in augmented reality despite the sensor's depth-data range limitations.
- Authored a custom invisible-lit shader that writes to Z-depth, enabling both occlusion and relighting for Meta's MRUK within mixed-reality environments.
- Built a tool that generates primitive colliders from imported 3D assets, reducing manual setup time for the environment team.
- Implemented a UV-based shapekey system in Blender to convert Character Creator characters into the studio's custom character pipeline.
- Implemented shader-based particle culling to contain particles within a room without relying on colliders, reducing CPU overhead.
- Optimised shaders and authored VFX (decals, weapon effects, impacts, bear spray, smoke, and others) in Unity using HLSL and C#.
- Profiled runtime performance using OVR Metrics Tool and RenderDoc.
- Produced 3D models with trim-sheet textures, alongside clothing and dynamic props for the environment.

Senior Character Technical Artist

V-Armed, Tel Aviv (Remote) September 2022 – November 2024

- Led end-to-end redevelopment of the character pipeline, improving the modular character system and establishing a studio-wide custom rigging workflow.
- Optimised Unreal Engine performance through the development of consolidated master shaders, reducing instruction count and texture-lookup operations to meet VR performance budgets while raising character visual fidelity to AAA standards.

- Supervised the international character team at the Bangkok studio.

Character Supervisor

ASB Bangkok, Bangkok (On-Site) January 2024 – March 2024

- Completed a three-month assignment on behalf of V-Armed, training the Bangkok studio's character artists on the master shader and rigging system developed in-house, and facilitating knowledge transfer and pipeline adoption across studios.

Senior Technical Character Artist

VFR, Tel Aviv (Remote) October 2020 – July 2022

- Contributed to the character look-development pipeline and produced clothing assets and hair grooms using XGen.
- Developed custom tooling to adapt proprietary third-party character rigs and convert them for use in game engines, streamlining the character-creation pipeline.
- Authored a proprietary Python tool for MetaHuman rig transfer within Maya, predating Epic Games' official DNA file editing capabilities.
- Engineered custom tooling for the seamless transfer of speech-synthesis animations between Maya and Unreal Engine.

PREVIOUS WORK EXPERIENCE

Lead Character Artist

Impossibility Labs, California (Remote) June 2019 – June 2020

- Produced realistic characters within the technical constraints of VR for the simulation-based video game Artheon VR Museum.

Character Artist

Global Paradise (Remote) January 2017 – April 2019

- Created creatures and characters for a mobile video game.

3D Rigger and Animator

Flamingo Games, Paris (Remote) December 2015 – January 2017

- Rigged and animated blob-like characters to simulate soft-body behaviour while staying within a strict joint budget.
- Maintained the studio's in-house 3ds Max exporter tool, authored in MaxScript, to remain compatible with ongoing updates to the proprietary game engine.

3D Modeler

Moorepark Museum (Remote) January 2014 – July 2015

- Produced miniature models of trucks and vehicles and rendered them using KeyShot.

TITLES WORKED ON

- **ERTSSE (classified)**, AR training simulator for DoD, USA - Senior Technical Developer for XR
- **Unannounced pilot episode**, Netflix - Lead Shader Artist
- **VR Armed Forces Training Simulator VR** (Belgium PD, Mexico, LAPD, NYPD, DHS, IDF) – Senior Technical Character Artist and Character Pipeline Supervisor.
- **Cyber Eve** (NFT project) - Technical Artist and Look-Development Artist
- **Artheon VR Museum Simulator** (video game) - Lead Character Artist
- **TGP Surfer** (mobile video game) - Character Artist

SELECTED OPEN-SOURCE WORK

- **Fake Bevel Baker** – Hardware accelerated pathtracer tool written in OpenGL, C++ and Python, to bake low poly normal maps with bevelled edges.
- **Headless TTY** - A headless terminal emulator for Windows 11.
- **Face Recognition Photo Organizer** - A standalone Windows desktop application that automatically finds and groups photos of the same person across an entire local photo library.
- **Maya Better UV Packer** - A UV packing tool that respects unselected UV shells and treats them as obstacles, packing around them rather than overlapping - addressing a limitation of Maya's built-in Unfold3D.
- **Backblaze Exclusion Manager** - A Python utility for fine-tuning the exclusion list for Backblaze personal backup, allowing users to prevent specific files or folders from consuming upload bandwidth.

TECHNICAL SKILLS

3D Software: Maya, 3ds Max, Blender (intermediate), Houdini (beginner), ZBrush, Marvelous Designer, Wrap 3D, Mari, Substance Designer, Substance Painter, Ornatrix, XGen

Game Engines: Unreal Engine 5, Unity (2022 LTS, Unity 6)

Rendering: V-Ray, Arnold

Programming: Python, C++, C# (Unity), HLSL

Scripting: MaxScript (intermediate), AutoHotkey, HTML/CSS

Visual Scripting: Unreal Blueprint

Collaboration and Tooling: Perforce, Git, Jira, Monday.com, Microsoft Teams, Slack, Discord, Confluence

LANGUAGES

- English - Native (C2)
- Hindi - Proficient (C2)
- Bengali - Advanced (C1)

ADDITIONAL INFORMATION

Legal Name: Ketan Singh

REFERENCES

Michael Gonzalez (Worked alongside Michael) | **xReality Group**
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Tyler Egger (Reported Directly to Tyler) | **xReality Group**
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