Vega (Xuan Bai)

Senior Technical Artist | Real-time 3D & Simulation Pipeline/Tools Development

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Senior Technical Artist with 9 years shipping games and real-time interactive experiences.
Builds tools, pipelines, and prototypes that help creative teams deliver.
Deep understanding for PBR shader dev. Exploring physics simulation with USD & MuJoCo.

Professional Experience

Product Developer / Senior Technical Artist

Oct 2020 - Present

Manticore Games

Out of Time, a multiplayer online rogue-lite game built on Core Platform

Core Platform, a multiverse game engine and platform for play and create user generated games

UE5 • Maya • C++ • Python • Blueprint • PowerShell • Lua • JavaScript • Jenkins

- Primary owner of the Core-to-UE pipeline underpinning Out of Time, including concept, design, validation, implementation, expanding and maintenance.
  - Designed multiple asset-specific processing for native Unreal editing and open-world setup.
  - Shader simplification reduced shader instructions by 25% on average.
  - Evolved manual conversion into daily Jenkins automation (500+ runs).
- Built Unreal editor tools for asset creation, management, validation, info collection and diagnostics.
- Built DCC tools for 20+ artists, with Qt interfaces and consistent Perforce workflows.
- Aligned art, design, engineering, platform, and production stakeholders on implementation plans, risks, and tradeoffs.
- Handled asset, build, and performance issues from prototype through production; escalated unresolved problems to the team lead or engineering group.

Content Group Lead / Technical Artist

Oct 2017 - Mar 2020

Archifiction Inc.

n'Space, an immersive projection system including hardware console, software support, and content creation/deployment

UE4 • Maya • Houdini • Blueprint • VR • Projection Systems • Procedural Tools • VFX

- Developed a photorealistic vehicle showcase in Unreal Engine.
- Established the content team's production workflow as a founding member, spanning asset handoff, technical review, and deployment.
- Developed Houdini procedural/VFX tools and reusable production systems while managing asset pipelines.
- Led project scope, agile delivery, and outsourcing; delivered 15+ Unreal experiences with hardware, software, and marketing teams.
- Partnered with the hardware team on core system dev and with marketing for client requirements.

Other Projects

My Gaming Room

2026 - Present

Blender • OpenUSD • MuJoCo • Three.js • Python • Solo Project

- Built an OpenUSD workflow for 3D room assets and an interactive Three.js experience.
- Created a MuJoCo physics scene with collision proxies, articulated joints, and robot-contact validation.

Road Trip: Ahead One

July 2026 - Present

Blender • Three.js • Procedural Generation • AI-Assisted Solo Project

- Built 3D pipeline through AI generation -> Blender split & optimization -> Integration and Animation.
- Built a solo procedural road-trip game from concept to a playable browser experience.

Technical Skills

REAL-TIME & TECHNICAL ART

Unreal Engine • USD • MuJoCo
Shaders • Niagara/VFX • Lighting
3D Modeling • Animation
Profiling & optimization

TOOLS & PROGRAMMING

C++ • Python • Unreal Blueprints
GLSL • MEL • Lua • PowerShell

CREATIVE WORKFLOWS

Rapid prototyping • Figma
Multi-AI-assisted workflows
Perforce/Git • Jenkins

PRODUCTION

Cross-functional delivery
Project scoping • Leadership
Documentation • Iteration • Agile

Education

Master of Game Dev, Technical Art

University of Utah
2015 - 2017

Published thesis game on PS4

BS, Microelectronics

Shanghai Jiao Tong University
2011 - 2015

Minor: Computer Technology and Application

Advanced Mathematics •
Software Engineering •
Digital Logic & Circuit Design

LEADERSHIP

Vice President · 2023-Present
University Alumni Association
Large event organizing
Creative campaigns & delivery