

Experience

Unity 3D Engine • 10+ years • PC/Mobile development	C/C++ • 20+ years • High perf systems, blockchains
Unreal Engine • 10+ years • Simulation development	Rust • 10+ years • Blockchain, AI, simulation
Computer Vision • 10+ years • AI/ML, rendering development	Python • 20+ years • Tools and pipeline engineering
GPGPU/CUDA • 10+ years • High performance computing	F#/C# • 10+ years • Apps, games and tools

Employment

Defense	Simulation Scientist	2018-2022
<ul style="list-style-type: none">Developing synthetic datasets for training ML models and virtual environments for training robots.Developing scalable simulation systems for robot swarms using Unreal Engine, PX4, ROS (Robot Operating System)		
Vertex Studio https://vertexstudio.co/	Applied R&D	2016-
<ul style="list-style-type: none">Developing deep learning pipelines using PyTorch, real time pipelines using GStreamer and simulations using Unreal Engine, Unity 3D and custom engines.Developing core blockchains for scaling protocol-owned economies for games, simulations and XR experiences. Smart contracts, DeFi, GameFi, market makers.Maintaining custom Unreal Engine + NVidia PhysX for robotics applications.		
Simbotic https://simbotic.ai/	Open Source Developer	2019-
<ul style="list-style-type: none">Leading development of open source simulation and AI platform for bridging the reality gap with digital twins.Working on real time pipelines for generating synthetic data for training AI models.Integrating physics-based dynamics and computer vision into game engines.Improving sample efficiency of reinforcement learning models with rich virtual environments with dense rewards.Maintaining several docker containers for CUDA, ROS, GStreamer and TensorFlow.Custom 3D engine development for vectorizing meta-layers for XR experiences.		
Civil Maps https://civilmaps.com/	Simulation Consultant	2017-2019
Velodyne https://velodynelidar.com/		
Galois https://galois.com/		
<ul style="list-style-type: none">Sensor characterization, customization and visualization tools.Integration of Unreal Engine into development operations.Massive autonomous swarming simulation architecture for DARPA, DoD and similar agencies.		
Red Pill VR http://redpillvr.com/	Systems Engineer & Technical Art	2016-2017
<ul style="list-style-type: none">Integrated real time deep learning inference for VR Music MMO game using TensorFlow, GStreamer and UE4.Physics-based VR gameplay, UX interaction and full-body VR networking.		
Rawbots https://rawbots.github.io/	Indie Game Developer	2015-2016
<ul style="list-style-type: none">Designed and develop Rawbots, a robot crafting sandbox game. Robot simulations developed with Bullet Physics.		
LucasArts & ILM https://www.lucasfilm.com/	AAA Game Developer	2005-2015
MunkyFun https://www.munkyfun.com/		
Beyond Games https://www.beyondgames.co/		
<ul style="list-style-type: none">Console game developer for Xbox, PlayStation, Nintendo, PC, iOS and Android.Gameplay, physics and network developer for multiple titles, most notable Star Wars: The Force Unleashed.Simulation tools for real-time special effects and pre-vis for several movies.		

Skills

C • C++ • Rust	ROS • PX4	Console • PC • Mobile	Git • Github • Gitlab
F# • C#	TensorFlow GPU	OpenGL • CUDA • GLSL	Win • Linux • Android • iOS
Python	GStreamer	THREE.js • A-Frame	Docker • AWS • GCP
Type/JavaScript	UnrealEngine • Unity3D	LLMs • Vision	TCP UDP WebRTC WebSockets
Erlang	Bullet Physics • PhysX	Nvidia Xavier/Jetson	Make • CMake • Bazel