

Experience

Unity 3D Engine • 10 years • PC/Mobile development
Unreal Engine 4 • 5 years • Simulation development
Computer Vision • 8 years • AI/ML, rendering development
GPGPU/CUDA • 10 years • High performance computing

C/C++ • 10 years • High perf systems engineering
Rust • 5 years • Scalable distributed systems
Python • 10 years • Tools and pipeline engineering
F#/C# • 10 years • Apps, games and tools

Employment

Shield AI	https://www.shield.ai/	Senior Simulation Scientist	2018-
<ul style="list-style-type: none"> Leading team of contractors developing synthetic datasets for training ML models and photo-real environments for training robots. Developing scalable simulation systems for robot swarms using Unreal Engine 4, PX4, ROS (Robot Operating System) 			
Vertex Studio	https://vertexstudio.co/	Applied R&D Director	2016-
<ul style="list-style-type: none"> Developing deep learning pipelines using TensorFlow, real time pipelines using GStreamer and simulations using Unreal Engine 4, Unity 3D and custom engines. Developing scalable distributed and decentralized systems, high performance networking and peer-to-peer swarm consensus. Maintaining custom Unreal Engine 4 + NVidia Physx 4 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. 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. 			
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	20015-2016
<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. 			

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	ArrayFire	TCP UDP WebRTC WebSockets
Erlang	Bullet Physics • Physx	Nvidia Xavier/Jetson	Make • CMake • Bazel