

## EXPERIENCE

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### Software Engineer > Filmtools > Burbank, CA

2022 - 2025

- Spearheaded development of an on-demand vGPU cloud compute and rendering SaaS, scaled to hundreds of concurrent users; virtualizing workstation GPUs by VFIO passthrough to QEMU/KVM, efficiently provisioning VMs via libvirt, and fulfilling requests within seconds via Node.js and Express.js based RESTful API.
- Achieved consistent sub-200 ms latency hi-res (4K) browser-based livestream by deploying TURN protocol WebRTC server infrastructure and implementing adaptive bitrate allocation, enabling remote post-production editorial services.
- Expedited turnaround from days to minutes by automating pricelist parsing via LLM (GPT-4 API), and deploying a Flask-based dashboard UI for data review, scheduling, and submission to the Netsuite database.

### Platform Engineer > USC Ahmanson Lab > Los Angeles, CA

2021 - 2022

- Implemented Github Actions-driven CI/CD pipelines and multi-scene layered workflows in the Unity engine for the Lab's VR/XR collaboratories, improving build stability and halving integration time.
- Provided office hour consultation to faculty and researchers publishing with USC's Scalar platform, advising on and resolving integration concerns, including developing Javascript API extensions upon request to enable custom interactivity and dynamic content delivery tailored to requirements, improving platform throughput by 3x.

### C++ Developer > Pixerati > Chino Hills, CA

2021

- Enabled real-time procedural mesh generation in the C++ Autodesk Maya SDK as a compositing pipeline utility plugin.
- Attained sub-minute vertex, UV, and texture serialization to USD for low-latency scene generation in Unreal Engine.

### Pipeline Support Specialist > Bento Box Entertainment > Burbank, CA

2019 - 2021

- Scaled and maintained distributed render queues and server architecture, sustaining seamless production workflows at: *Bob's Burgers* (Fox), *The Bob's Burgers Movie* (Disney), *Central Park* (Apple), and *The Prince* (HBO)
- Interfaced directly with design teams and production staff in provision of technical support addressing workstation (macOS, Windows), network, user access, and software (ShotGrid, Toon Boom Harmony, Storyboard Pro, Adobe CC) issues.
- Managed the imaging, inventory, deployment, and decommissioning of studio hardware, numbering in over 500 machines.

## EDUCATION

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### Master of Science > Computer Science > University of Southern California

2021 - Hold

- Paused at 16/32 units - took leave to pursue work prospects.

### Bachelor of Science > Computer Science > California State University Northridge

2018

## PROJECTS

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### 3D Mesh GCN Classifier > Deep Learning + MLOps

2025

- Implemented a 3D model to graph preprocessing pipeline for GCN training and classification on the ModelNet40 dataset.
- Deployed training and inference models as serverless IaC via Terraform on GCP, routed by FastAPI and tracked by MLFlow.

### Q-Learning Atari Breakout > Reinforcement Learning

2022

- Optimized a Markov Decision Process agent for training in TensorFlow to play and solve OpenAI Gym's Atari Breakout.
- Achieved game-winning reward values within 28 training episodes, logging iterations in Jupyter Notebook.

## SKILLS

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**Languages** > C++, Python, PowerShell, bash

**Machine Learning** > Pytorch, MLFlow, Open3D

**GenAI** > OpenAI ChatGPT, Copilot, Midjourney

**Backend** > Node.js, Express.js, Socket.io, Flask, FastAPI, SQL, Redis

**DevOps** > GitHub Actions, Terraform, Nginx, AWS EC2, AWS Lambda

**Virtualization** > QEMU, Linux KVM, Proxmox, Docker, Kubernetes