

## 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 implementing TURN protocol WebRTC server infrastructure and 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 > Sidney Harman Academy > Los Angeles, CA 2021 - 2022

- Improved build stability and halved the integration time of the Lab's VR/XR laboratories by establishing a GitHub Actions driven CI/CD pipeline and a multi-scene layered workflow in the Unity engine.
- Increased throughput by 3x of USC's Scalar publishing platform by developing JavaScript API extensions to enable custom interactivity and dynamic content delivery tailored to the requirements of individual articles of scholarship.
- Provided office hour consultation to researchers publishing with Scalar, advising on and resolving integration concerns.

### 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 troubleshooted distributed rendering queues and server architecture for productions in parallel including: *Bob's Burgers* (Fox), *The Bob's Burgers Movie* (Disney), *Central Park* (Apple), and *The Prince* (HBO)
- Provided technical support and guidance for Toon Boom Harmony, Storyboard Pro, ShotGrid, and the Adobe Creative Suite.
- Transitioned the enterprise network of 350+ users within two days to a secure, VPN-based workflow in the advent of COVID-19.

## EDUCATION

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### Master of Science > Artificial Intelligence > 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, JavaScript, bash

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

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

**Full Stack** > Node.js, Express.js, Vue.js, Socket.io, Flask, SQL, Redis

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

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