

## EXPERIENCE

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### Software Engineer > Filmtools > Burbank, CA 2022 - 2024

- Spearheaded development of a cloud-computation SaaS for low-latency access to high-performance GPU rendering; routed via REST API over Node.js stack for network-wide user identity and VM state management, fulfilling access reliably and securely at the scale of hundreds of concurrent users.
- Implemented infrastructure for TURN-protocol optimized WebRTC live streaming and adaptive bitrate allocation, delivering hi-res browser-based remote post-production editorial services.
- Led a workflow optimization effort through the deliverance of a vendor price-sheet interpreter driven by OpenAI's GPT-4 API, expediting data processing to a Flask-based interface for review and scheduling for submission to the Netsuite database.

### Platform Engineer > Sidney Harman Academy > Los Angeles, CA 2021 - 2022

- Streamlined deployment of the Lab's 3D/VR laboratories by establishing a GitHub Actions driven CI/CD pipeline and a multi-scene layered development workflow in the Unity engine.
- Extended content delivery and interactivity of USC's Scalar publishing platform via JavaScript API to meet the requirements of multidisciplinary articles of authored scholarship.
- Held office hours to provide consultation for custom feature integration to researchers publishing with Scalar.

### Maya C++ Developer > Pixerati > Chino Hills, CA 2021

- Developed an Autodesk Maya SDK utility plugin to facilitate real-time procedural regeneration of mesh objects as a component to a proprietary compositing pipeline.
- Optimally serialized mesh vertices, UVs, and textures into USD for low-latency export and scene generation in Unreal Engine.

### Pipeline Support Specialist > Bento Box Entertainment > Burbank, CA 2019 - 2021

- Scaled and troubleshooted distributed rendering queues and server architecture of 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.
- Expediently transitioned the enterprise network to a secure, VPN-based remote 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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### Atari Breakout Q-Learning > 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.

### 5x5 Go Minimax Agent > AI Game-Playing 2021

- Implemented a heuristic-led Alpha-Beta pruning algorithm to competitively play 5x5 Go versus intelligent opponents.
- Achieved 65% win-rate over competitive Alpha-Beta agents and 42% against Q-learning trained agents over 300 matches.

## SKILLS

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**Programming** > C++, Python, JavaScript

**Machine Learning** > TensorFlow, OpenCV

**DCC** > USD, Maya, Unreal Engine, Unity, WebGL

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

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

**Containerization** > Docker, Kubernetes, libvirt, Proxmox, KVM