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EXPERIENCE

Software Engineer › *Full-time* at **Filmtools Cloud** 2022 – 2024

- Spearheaded the scaling of numerous repositories to production, including both client-facing services and in-house applications. As the sole engineer, I led every phase of the development lifecycle – ranging from conception, architecture, full-stack development, UX/UI design, testing, deployment, and documentation.
- Key projects delivered:
  - › Cloud computation SaaS providing high-performance GPU processing/rendering. End-user requests are delivered to the backend via custom REST-API to handle network-wide VM state management. Prioritizes scalability, security, resource efficiency, and low-latency performance.
  - › A client-targeted web-app to facilitate live hi-res editorial/review sessions for remote film production. Ensures streaming consistency for session participants via dynamic bitrate handling, a self-hosted TURN protocol, and video encoding optimizations.
  - › Proprietary app to automate updates to the organization's inventory database to maintain up-to-date and competitive pricing. Flask-based web client handles spreadsheet submissions for backend to intelligently schedule database updates.

Unity Developer › *Part-time* at **The Ahmanson Lab, USC** 2021 – 2022

- Built 3D spaces, visual effects, and mechanics in Unity for thematic VR & WebGL academic collaborations.
- Extended the scripting functionality of the Scalar JavaScript API for publishing online interactive research.

Maya API Engineer › *Contracted* at **Pixerati** 2021

- Implemented a C++ plugin for Maya to efficiently capture the polygonal data & UV maps of 3D-meshes in a defined volume in real-time as a component to a procedurally generated environment in Unreal Engine.

IT Specialist › *Full-time* at **Bento Box Entertainment** 2019 – 2021

- Timely resolved technical support tickets across entire animation production pipelines, including:
  - › *Bob's Burgers* (Fox), *The Bob's Burgers Movie* (Disney), *Central Park* (Apple TV), and *The Prince* (HBO)
- Deployed shell scripts to over 300 machines for remote image-based OS installation and AD administration.

EDUCATION

University of Southern California › *Master of Science* in **Artificial Intelligence** inc. (16/32)

California State University, Northridge › *Bachelor of Science* in **Computer Science** 2018

PROJECTS

5×5 *Go* Minimax Agent › *AI Game-Playing* 2022

- Implemented a heuristic-led Alpha-Beta pruning algorithm to win 5×5 *Go* versus other intelligent agents.
- Resulted in a 65% win-rate over other publicly available Alpha-Beta agents, and 42% versus Q-learning.

NavMesh A* Pathfinding › *AI Search & Game Dev* 2021

- Implemented A* map navigation with physics mechanics in dynamic 3D arenas using Unity's NavMesh API

Market Estimation Model › *Data Mining* 2021

- Developed a script to generate and sanitize datasets of price-histories of NYSE tokens precise to 1-minute intervals as part of a supervised-learning model for predicting stock market closing-prices

TensorFlow Q-Learning › *Reinforcement Learning* 2021

- Optimized an MDP agent for training under GPU to virtually play and solve OpenAI Gym's *Atari Breakout*.
- Achieved consistent game-winning reward values within 28 training episodes; logged using Jupyter.

MNIST Image Classifier › *Machine Learning* 2020

- Built a 4-layer neural network from scratch to solve the MNIST database image-classification problem.
- Achieved 99% accuracy of prediction under 80 epochs of training the model on a 10,000-image dataset.

SKILLS

Object-Oriented Programming (Python, JavaScript, C++) | Algorithms & Data Structures | Full-Stack Frameworks (Node.js, Express.js, Socket.io, Flask, SQL, HTML/CSS) | Machine Learning (OpenCV, TensorFlow, Reinforcement Learning) | 3D & FX (Unity, Three.js, Maya) | Cloud Ecosystems (GCP, AWS) | Virtualization Libraries (libvirt, Proxmox, KVM, QEMU)