Evan Kim

evankim.info • ekim2339@gmail.com • LA & Boston

EDUCATION

Massachusetts Institute of Technology   **Expected Graduation: June 2026**
Candidate for Bachelor of Science in Computer Science
- Minors: Mathematics, Brain and Cognitive Sciences
- Relevant Coursework: Machine Learning (Grad), Statistical Learning Theory (Grad), Software Construction (taught in Typescript), Computer Vision, Computation Structures, Data Structures and Algorithms, Linear Algebra, Differential Equations, C & Assembly

PROJECTS

SculptFormer (MIT Computer Vision Project)   **Spring 2024**
- Constructed and trained a transformer-based 3D-reconstruction model that can reconstruct accurate 3D geometries from a single 2D input image of an object, achieving state-of-the-art Chamfer distances and F1-scores
- Performed ablation studies on each main component of the final network

Conjure   **Fall 2023**
- Built a visual language model-powered (LLaVA) image filtering tool to search a user's gallery, dataset, or storage system based on given text queries to retrieve the closest visual matches, which the tool can then answer questions about
- Utilized React, Express, MongoDB, and Node.js alongside Python for inference on a Linux server, mainly building the backend

EXPERIENCE

MiiM.ai   **May 2024 - August 2024**
Software Engineer Intern
- Developed new algorithms and image preprocessing heuristics to automate the disambiguation of customers for the task of stitching complete tracks of customer movement in stores using images captured from partnered retail spaces
- Trained computer vision models, such as person reidentification models and YOLOv10, on AWS with millions of in-store images after reading dozens of papers, constructing new model architectures, and tuning hyperparameters
- Successfully automated ~75% of the average daily workload for manually reidentifying customers within production data

MIT Computer Science and Artificial Intelligence Laboratory   **April 2023 - September 2023**
Research Intern
- Built a video-conditioned text-to-video pipeline to upload camera trajectories from the perspective of a trained robotic agent in Nvidia's Isaac Gym to generate a synthetic dataset of 150k+ frames using Stable Diffusion and ControlNet parallelized across 50 GPUs to add vision layers to robot locomotion policies
- Developed a headless web application using React Three Fiber and Python to generate 3D scenes from 2D height maps taken during reinforcement learning tasks, and neural radiance fields (NeRF) taken from drone footage
- Utilized and fine-tuned VLMs and LLMs alongside hundreds of stereoscopic camera streams from the Unitree Go1 robot using C++, to construct feature fields of scenes for object retrieval, navigation, and path planning

MIT Computer Science and Artificial Intelligence Laboratory   **December 2022 - May 2023**
Research Intern
- Trained and evaluated 1000+ reinforcement learning reward functions for locomotion on the Unitree Go1 robot quadruped using high-performance computing on MIT SuperCloud and computing clusters to orchestrate thousands of physics simulations in parallel using Python and Docker
- Developed models to approximate the relationship between simulated and real actuator behavior alongside hundreds of deployments to minimize the sim-to-real gap when training the Unitree Go1 to run, walk on its hind feet, and avoid obstacles.

UCSB Research Mentorship Program   **June 2021 - June 2022**
Research Assistant
- Conducted research on the "Effects of HCM-associated Genetic Mutations on Human iPSC-Derived Cardiomyocytes" using MATLAB, Python, R, and ImageJ to analyze features of cardiomyocyte movement
- Created data analysis application to facilitate the collection, interpretation, and visualization of contractile data within minutes of inputting microscopy videos, which 20+ researchers then used

TECHNICAL SKILLS

- **Python:** Machine learning projects, specifically PyTorch, Scikit-learn, OpenCV, Numpy, Pandas
- **TypeScript/Javascript:** MERN stack, Three.js, and HTML/CSS as necessary for relevant web development
- **C++:** Low-level control of quadruped robots for onboard motors and cameras
- **Tools:** Terminal, AWS, Git, Docker, Hugging Face, LaTeX, Notion, Linux servers (Ubuntu, Debian, RHEL)

AWARDS & ACTIVITIES

- **AMC:** 3x American Invitational Mathematics Examination (AIME) Qualifier, obtained scores in the top 2.5% of competitors in the nation for each competition cycle, peaking in the top 200 students out of 30000
- **Princeton University Math Competition:** Individual Finals Qualifier, scored in the top 15 out of 336 students
- **CyberPatriot:** Platinum Tier, 3x National Semifinals Qualifier