Jerrick Liu

github.com/JerrickLiu | linkedin.com/in/jerrickliu | (937) 470-7098 | jerrick.y.liu@gmail.com

SKILLS

TECHNICAL SKILLS

Languages:
Python • Java • JavaScript
HTML5 • CSS3 • LaTex
Tools + Libraries:
PyTorch • Tensorflow • Docker • Git
Node.js • Express • MongoDB
Concepts:
Machine learning • Reinforcement learning

SOFT SKILLS

Trilingual communicator in English, Mandarin, and Spanish
Seal of biliteracy in Spanish
Team building
Reliable and consistent

EDUCATION

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Bachelor's of Science in Computer Science
Urbana, IL
GPA: 4.0/4.0
James E. Scholar
Relevant Coursework:

- Multivariable calculus
- Software design studio
- Discrete structures

CENTERVILLE HIGH SCHOOL

High school diploma
May 2020| Centerville, Ohio

GPA: 4.90/5.33 (Unweighted 4.0/4.0)
Rank: 7/695 students
National Merit Finalist
National AP Scholar
State medalist in Science Olympiad

INTERESTS

BLOGGING!

JERRICKLIU.GITHUB.IO
I blog about my experiences working with the Air Force, machine and reinforcement learning, and other interesting topics like SSH and RSA. Have a read!

WORK EXPERIENCE

AIR FORCE RESEARCH LABORATORY | Research Intern

June 2020 - August - 2020| Riverside, Ohio
github.com/JerrickLiu/MineRL-Stable-Baselines

- Utilized MineRL, a reinforcement learning environment based in Minecraft and OpenAI Gym to train agents through imitation and deep reinforcement learning to achieve certain objectives in the game
- Used TensorFlow and reinforcement learning algorithms such as proximal policy optimization (PPO) to maximize the rate at which agents learn to play Minecraft and to understand how A.I. agents do in long-term planning
- Incorporated Docker, writing a docker file for my code, pushing it to Docker Hub, and gained experience packaging software and deploying to other machines and servers

AIR FORCE RESEARCH LABORATORY | Research Intern

May 2019 - August - 2019| Riverside, Ohio
github.com/JerrickLiu/PyTorch-GradCAM

- Researched various ways to implement deep learning techniques in convolutional neural networks using PyTorch, a machine learning library, to improve image classification in drones
- Implemented Gradient Weighted Class Activation Mapping (GradCAM), an explainable A.I. technique, to visualize and better understand layers of neural networks
- Presented findings to senior Air Force staff, researchers, and fellow interns

PROJECTS

MECHMANIA BOT | github.com/ryantwolf/mm26-python

- Developed a bot that played in a MMO game produced by Mechmania, which hosts a 24 hour A.I. hackathon to produce an A.I. agent to play their game
- Wrote game algorithms and strategies in Python to maximize the experience gained during playthroughs
- Awarded 2nd place overall

INTUITEACH | github.com/z4kids/IntuiTeach

- Developed a web app in a week-long hackathon based in virtual education that allows teachers to pose live questions during a video call and incentivizes younger learners to be more engaged through our reward system.
- Produced the backend API, using Node JS, Express, and MongoDB to store the necessary data for the web app, including questions made by the teacher, the zoom ids of teachers and students, rewards etc.
- Helped connect backend to React-based frontend using JS and Node.

IMAGE MASK GENERATOR | github.com/JerrickLiu/Mask-generator

- Built an mask generator for images using OpenCV2 that may be further modified to change the backgrounds to colors or different images
- Useful for generating more data for supervised learning

UIUC WEBSCRAPER | github.com/JerrickLiu/UIUC-FAQ-Webscraper

- Due to the rise of COVID-19, college still remains very uncertain for me. In order to keep myself up to date, I built a webscraper that scraps UIUC's FAQ info and emails me if there is new question added to the FAQ.