Jerrick Liu

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SKILLS

TECHNICAL SKILLS

Languages:
Python • Java • C++ • HTML5
CSS3 • LaTex
Tools + Libraries:
PyTorch • Tensorflow • Docker • Git
Concepts:
Machine learning • Imitation learning
Reinforcement learning

SOFT SKILLS

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

EDUCATION

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Bachelor's of Science in
Computer Science
May 2024| Urbana, IL
GPA: 4.0/4.0
James E. Scholar
Relevant Coursework:
- Calculus 3
- Intro to Computer Science (Java)

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
Multiple state medalist in Science
Olympiad

INTERESTS

BLOGGING!

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

SUMMARY

Aspiring computer science student with experience collaborating in the industry working on long-term projects for the Air Force. Seeking co-ops and internships to further nurture my skills as a engineer and gain knowledge about new technologies.

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

PERSONAL WEBSITE | jerrickliu.github.io/Jerrick.web/

- Using HTML5, CSS3, and a helper template, I designed my own website that highlights who I am and what I've done.

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.

FACE DETECTOR | github.com/JerrickLiu/FaceDetector

- Used Python's computer vision library OpenCV2 and the library face-recognition to detect faces in pictures or webcam video

FLAPPY BIRD | github.com/JerrickLiu/FlappyBird

- Created a script that plays the classic game Flappy bird through Pygame