

Yifei Liu

 yifeilkx@gmail.com

 818-414-1460

 Irvine, CA

EDUCATION

University of California, Irvine (UCI)

B.S. Computer Science, Minor in Informatics

09/2019 - 06/2023

Relevant Coursework: Computer Photography and Vision, Intro to Artificial Intelligence, Intro to Linear Algebra, Machine Learning and Data-Mining, Probability and Statistics

GPA: 3.91

Dean's Honor List

EXPERIENCE

UCI Intelligent Dynamics Lab Undergrad Researcher 10/2021 - Present

- Conduct research on reinforcement learning approaches for lane-following task on the Duckietown platform
- Calibrate camera and wheel for mobile robots (Duckiebots)
- Implement attention mechanism for RL agents and combine with sim2real methods to improve simulation-trained agent's performance for deployment on real robots

Chinese Academy of Science Institute of Automation Research Intern 08/2021 - 09/2021

- Conduct research on deep Q-network: summarized DQN article, interpreted the algorithm, wrote lab report on hyper-parameter tuning
- Implemented DQN-based Flappy bird auto-player capable of scoring 400+ in the game
- Organized timeline and development of deep reinforcement learning with mind node

Lepu Medical Technology Company Data Mining Intern 06/2021 - 08/2021

- Crawled and categorized medical data from leading institutions' websites, built a Neo4j graph database
- Implemented text segmentation, named entity recognition, relation extraction, and BIO tagging for Chinese medical articles

PROJECTS

Cancer Detection Program Python (tensorflow) Artificial Intelligence@UCI Club 10/2021 - Present

- Preprocessed cancer histology images and cleaned up the datasets
- Implemented ResNet and VGG model, applied transfer learning to classify invasive, in-situ, and non-cancer patches and achieved 92% accuracy
- Perform semantic segmentation of tumors from whole slide images with UNet

Glaucoma Surgery Prediction Python (pytorch) UCI Gavin Eye Institute 11/2021 - Present

- Automated hyper-parameter tuning for glaucoma surgery outcome prediction with close-up eye images
- Incorporated low-dimensional inputs to CNN to improve prediction accuracy

Wine Quality Estimator Python 03/2021 - 06/2021

- Performed data exploration, preprocessing, feature selection on UCI white/red wine quality dataset
- Trained multiple models (gradient boosting, random forest, SVM, neural network) to predict quality; used stacked ensembles to combine and improve prediction

Minecraft Multi-view Matcher Python (pytorch & tensorflow) 09/2021 - 12/2021

- Created a mod to locate villages in Minecraft and take screenshots of the villages' top view and 4 side views
- Implemented and trained a pseudo-siamese network model to match village views

Linux Shell C 03/2021 - 06/2021

- Programmed a bash-like shell that support I/O redirection and foreground / background job control
- Implemented signal handlers and built-in commands (e.g. jobs, bg, fg, kill)

SKILLS

Languages: Python, C, C++, HTML/CSS, Javascript
Database: Neo4j **Tools:** Git, Selenium, Vega-lite
Frameworks: Sklearn, Keras, TensorFlow, PyTorch

ACTIVITY

Alumni and Academic Affairs
Committee Member 11/2020 - Present
UCI School of ICS Student Council