

Yihong Yu

yihony1@uci.edu | 949-439-8316 | github/HazelYuAhiru | Irvine, CA 92612

EDUCATION

University of California, Irvine

Expected Graduation: Spring '25

B.S. Computer Science(Honors Program), Minor in Mathematics

Senior | GPA: 3.98

- Coursework: Python, C/C++, Java Programming, Data Structure/Algorithm, Database Management, Network, System design, AI/Machine Learning, Data Mining, Statistics and Probability, Linear Algebra
- Dean's Honor List for 8 quarters

SKILLS

- **Languages:** Python, C++, C, Java, SQL, Golang, TypeScript, HTML/CSS/JavaScript
- **Frameworks/Libraries:** React.js, Vue.js, TensorFlow, PyTorch, Numpy, Pandas
- **Technologies:** Git, CI/CD, Linux, REST API, Docker, Kubernetes, MySQL, PostgreSQL, SQLite, CouchDB, Google Cloud Platform Computing Service, AWS EC2

RESEARCH

UC Irvine Cloudberry Lab

Irvine, CA

QueryBooster/SqlRewriter Project Student Researcher

July 2023 - Present

- Improved QueryBooster, a middleware-based query rewriting tool, interface by adding SQL query formatter and comparator using React.js.
- Designed and built a full-stack SQL community forum, SqlRewriter, using React, Next.js, and Python, allowing users to post SQL query rules, store rules on the backend using SQLAlchemy, and connect rules to QueryBooster.

UC Irvine Interactive Cognitive Systems Lab

Irvine, CA

Student Researcher

Jan 2024 - Present

- Participated in research on artificial agent emergent communication and studied the shared lexicon emerging from local pragmatic agent pair interactions.
- Utilized 50 speaker-listener agent pairs with PyTorch and TensorFlow and plotted the results of the emergent communication systems in the dataset domain for each pair of agents.

UC Irvine Shi Lab

Irvine, CA

Student Researcher

May 2023 - Sept 2023

- Utilized AI-driven model(SegNet, SAM) as the fundamental framework for cell image segmentation and detection to support upstream cell research.
- Developed a microscope control program using Python that serves for better microscope observation and automation.

PROJECTS

Satellite Image Electricity Detection

Python, Pytorch/Pytorch Lightning, Tensorflow

- Designed a workflow from scratch, including data analysis, preprocessing, model selection, training, evaluation, and result visualization.
- Preprocessed and split the IEEE GRSS 2021 ESD satellite image dataset sets using TensorFlow.
- Modified SegmentationCNN, UNet, and FCNResNet models using PyTorch and TensorFlow for semantic segmentation, and trained them on Slurm.
- Detected and selected the best-performing hyperparameter combinations for the models and visualized the model performance using WandB. Achieved an accuracy of 90%.

Rock-Paper-Stone-Lizard-Spock Hand Gesture Detection

React, Tensorflow.js, HTML/CSS/JavaScript

- Captured user hand gestures by React-webcam and classified using Tensorflow.js and pre-trained Fingerpose library model.
- Built the interactive web app using React and JavaScript and deployed through Github Pages.

TUTORING EXPERIENCE

- ICS 31(Intro to Python Programming) Learning Assistant March 2022 - Jan 2024
- ICS 6B(Discrete Math and Boolean Algebra) Learning Assistant Sept 2022 - Dec 2022