

Tony Xia

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Technical Skills



Python, C++, Java, JS, C, R, Swift
Pandas, NumPy, Selenium, AMT

PyTorch, TensorFlow, Sklearn
Git, Docker, Linux CLI, Google Cloud

Publications



IconQA: A New Benchmark for Abstract Diagram Understanding and Visual Language Reasoning

Pan Lu, Liang Qiu, Jiaqi Chen, **Tony Xia**, Yizhou Zhao, Wei Zhang, Zhou Yu, Xiaodan Liang, Song-Chun Zhu

- Accepted by **NeurIPS 2021 Datasets and Benchmarks Track**
- Collected and preprocessed unique visual question answering datasets
- Performed a human performance study with Amazon Mechanical Turk
- Explored 8 baseline VQA models and benchmarked on IconQA

Projects



Coding Question Classifier | [PyTorch](#), [Transformer](#), [NumPy](#), [Selenium](#), [Pandas](#)

Jan—July 2021

- Conceptualized the possibility of **predicting coding problem type** using NNs
- Explored 6 different **deep non-linear classifiers** to maximize accuracy
- Collected and cleaned **10000+ problems** for training
- Implemented a network that outperforms baseline by **30%** in accuracy

Car Speed Predictor | [PyTorch](#), [NumPy](#), [OpenCV](#)

Jan—Mar 2020

- Replicated the top solution to the Comma AI car speed prediction challenge
- Explored **semi-supervised learning** as a potential solution
- Improved model performance by incorporating **optic flow** in the training

Experiences



Research Assistant | [Center for Vision, Cognition, Learning, and Autonomy at UCLA](#)

July 2021—Present

- Assisting a Ph.D. student in the **publication** of several research papers
- Cleaned and **constructed 3 datasets** for machine learning models
- Designed and implemented a new model **architecture** for VQA tasks

Officer | [ACM ICPC at UCLA](#)

Mar 2020—Present

- Organized SoCal's **biggest student-run coding contest** with over 300 participants
- Developed a **problem testing tool** to facilitate design of coding contest problems
- Lead 3 workshops that **teach data structures and algorithms** throughout the year

Contestant | [UCLA ICPC Team](#)

Dec 2020—Mar 2021

- Achieved **top 8** out of 100+ teams in the SoCal ICPC regional contest
- Honed strong **algorithmic thinking** and **problem-solving** skills through training
- Solved challenging problems under time constraints on a team of 3

Education



University of California, Los Angeles

Sept 2019—June 2023

- Computer Science & Applied Mathematics, GPA: 3.91
- Machine Learning, Computer Vision
- Statistical Models, Regression, Data Analysis and Experiment Design