

## Rui A. Wang

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Diligent and experienced at implementing machine learning, deep learning and data science solutions to solve problems. Passionate about machine learning and innovative research/technology that improves the lives of people and business. Experienced in AI/ML tools (TensorFlow, PyTorch, Scikit-learn, LLMs/GPT, Yolo, Detectron2) with real-life data/use.

### Education

#### University of Chicago

*September 2023 - exp. 2024*

M.S. Computational and Applied Mathematics - Specialization: Machine Learning, Data Science

#### University of California, Los Angeles

*October 2020 - March 2023*

B.S. Applied Mathematics / GPA: 3.87

### Skills and Certificates

- Python - 6 years
  - ML: TensorFlow, PyTorch, Scikit-learn
  - Flask, Asyncio, Selenium, Discord.py
  - Computer Vision, Object Detection
  - Natural Language Processing, Large Language Models
  - Reinforcement Learning
- Java - 4 years, C++ - 3 years, Swift - 1 year
- SQL - 3 years
- R, Tableau - 2 years, HTML/CSS - 2 years
- MATLAB - 2 years
- Google Cloud Platform, AWS Sagemaker - 6 months
- Git, Docker - 1 year, Kubernetes, Simics - 3 months
- DeepLearning.AI TensorFlow Developer Professional Certificate
- Google Advanced Data Analytics Professional Certificate

### Work, Research, and Project Experience

#### Graduate Researcher, CHAI Lab at UChicago

*September 2023 - Present*

- Researcher with Dr. Chenhao Tan's Chicago Human + AI (CHAI) Lab researching the capability of LLaMA and other Language Models at analyzing and understanding language features on the LIWC-22 dataset.
- Implemented and tuned vision models such as CLIP and Vision Transformers to predict social factors of Google Street View images such as wealth, location, and cultural similarity.

#### Data Science Intern, Farmers Insurance Exchange

*June 2022 - August 2022*

- Implemented and analyzed 12 classifier models using NLP techniques such as tokenization, embedding, sentiment analysis, and tf-idf to predict customer satisfaction and promoter likelihood from auto insurance claims.
- Engineered data processing pipeline for 750K-row large, feature-oriented datasets from production servers and MS SQL Server databases for model training/testing.

#### Research Intern, Harvey Mudd College

*May 2019 - August 2019*

- Implemented an LSTM RNN utilizing a sliding window to predict human motion state off cell-phone accelerometer and gyroscope data; trained under a 1-million row dataset, with the supervision of Dr. Weiqing Gu.

### Reinforcement Learning Wuziqi

- Trained and deployed an AI agent to play variations of the game Wuziqi entirely through reinforcement learning and self-play by implementing the AlphaZero Reinforcement Learning algorithm using Monte Carlo Tree Search.

### Divvy Bikes Classifiers

- Built, tuned, and tested 9 classifiers, including Logistic Regression, Decision Trees, Random Forests, and Gradient Boosted models to predict membership status, trained on 6M rows of data with processing and feature-engineering.

### OptionsBot

- Discord bot that visualizes options trading information using data from TDAmeritrade, Yahoo! Finance, and CBOE.