Wei-En (Warren) Wang

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Education

Massachusetts Institute of Technology, GPA: 5.0/5.0, Expected Graduation: Feb 2024
Master of Engineering in Electrical Engineering and Computer Science, Concentration in Artificial Intelligence
Massachusetts Institute of Technology Class of 2023, GPA: 4.9/5.0
Honors: Phi Beta Kappa, Sigma Pi Sigma inductee
Bachelor of Science in **Electrical Engineering and Computer Science**, Bachelor of Science in **Physics**

Experiences

Dolphi Learning, *Software Engineer* **June. 2023 - Sept. 2023**

- Implement pipelines to finetune LLMs with Huggingface and PyTorch for a chatbot trained on private content
- Develop evaluation metrics and pipelines for chatbot-generated output
- Build a simple chatbot UI based on trained models

Data to AI Lab, Lab for Information & Decision Systems(LIDS), MIT, *Researcher* **Mar. 2021 - Present**

- Conduct research on Explainable Machine Learning under Dr. Kalyan Veeramachaneni
- Develop explanation algorithms for time-series ML models. Case studies with wind turbine failure predictions and MIMIC-IV datasets. Work led to [2] and my M.Eng. thesis.
- Develop Sibyl, a RESTful web application with Streamlit for ML explanations: https://sibyl-ml.dev/ demo page hosted at https://sibylapp.streamlit.app/
- Develop Pyreal: https://github.com/sibyl-dev/pyreal, an explainable AI toolkit that provides easy-to-understand ML explanations. Help design user studies to evaluate Pyreal. Paper in submission [1].

Introduction to Machine Learning, MIT EECS, *Teaching Assistant* **Sept. 2022 - May. 2023, Sept. 2023 - Present**

- Help run an ML course during 2022,2023 by hosting office hours/lab sections and leading lab discussions
- Design and maintain homework Google Colab notebook files for the course

National Taiwan University Hospital, *Researcher* **July. 2021 - Sept. 2021, July. 2022 - Sept. 2022**

- Develop and design deep learning models with PyTorch to perform arterial calcification segmentation on CT images
- Work with radiologists through active learning to efficiently label huge dataset and train computer vision models
- Design, train, and test deep learning models using PyTorch to help predict blood pressure of patients
- Study, implement, and modify time-series signals machine learning models such as LSTM and attention models

Learning and Intelligent Systems, CSAIL, MIT, *Researcher* **Sept. 2021 - Dec. 2021**

- Research computer vision under Professor Tomás Lozano-Pérez and Professor Leslie Pack Kaelbling
- Develop algorithms in python to obtain semantic information from pointcloud data with PyBullet, demo page hosted at https://wei-enwang.github.io/merge_pcl/
- Study several research papers in the area of manipulating and transforming pointcloud data

Publications

[1] Alexandra Zytek, **Wei-En Wang**, Dongyu Liu, Laure Berti-Equille, Kalyan Veeramachaneni "Pyreal: A Framework for Usable ML Explanations". *Submitted to MLSys 2024*

[2] Alexandra Zytek, **Wei-En Wang**, Sofia Koukoura, Kalyan Veeramachaneni "Lessons from Usable ML Deployments Applied to Wind Turbine Monitoring". *In XAI in Action: Past, Present, and Future Applications at NeurIPS 2023*

Awards

Taiwan Olympiad Scholarship **Sept, 2020 - Present**
Second Place, Meichu Hackathon 2019, VIA **Oct. 2019**
Gold medal, 50th International Physics Olympiad (IPhO) **July 2019**
Third Place and Microsoft Special Award, Engineering, 58th Taiwan National Science Fair **July 2018**