

CRYSTAL CHANG

M.Sc. (she/her)

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EDUCATION

Electrical and Computer Engineering, University of Texas at Austin Texas, USA

M.Sc. in Decision, Information, and Communications Engineering 2023 - 2025 (expected)

- Advisor: Prof. Amy Zhang, Hao Zhu, Jessy Li, Joydeep Biswas
- Research Areas: Large Language Models for Robotics, Real World ML Network in social community, RL & Graph & Statistical Modeling in Power Grid System
- GPA: 3.40 / 4.00

Interdisciplinary Engineering, National Tsinghua University Hsinchu, Taiwan

B.E. in Industrial Engineering and B.S. in Data Science, Minor in Linguistics 2018 - 2023

- GPA: 3.33 / 4.00

RESEARCH

1. **Benchmarking Large Language Models for Implicature-Based Instruction Generation in Mobile Robot Programming Services** *present*
2. **Multilayered Network ML Analysis of News Credibility and Community Vulnerability to Misinformation: A Case Study of January 6th on Reddit** *Sep 2024 - Dec 2024*
3. **Carbon-Aware Real-Time Reinforcement Learning Solution Model for Electric Vehicle (EV) Charging & Battery Management Systems** *Jan 2024 - May 2024*
4. **Weather-Coupled Topology Analysis of Texas Renewable Power Grid Using GNNs and Representation Learning** *Dec 2023 - Jul 2024*

INTERNSHIPS

Arcus Power Corporation | Data Scientist Intern 2023 - present

- Developed and optimized machine learning models, for time series forecasting in the Nodal Day-Ahead Market of ERCOT, achieving accurate predictive insights.
- Implemented ML algorithms within SaaS platforms to deliver advanced analytics and automation features tailored for business applications.

Innodisk International Corporation | Firmware Testing Engineer Intern 2023

- Debugged automated tests in Linux and Windows environments to ensure reliability.
- Collaborated with software engineers to design automated tests for firmware functionality in customized chip systems.

Mirle Automation Co., Ltd. | Intellectual Property and Patent Specialist 2022

- Reviewed patents and prepared reports for the General Manager.
- Completed accreditation on Taiwan Intellectual Property Management System (TIPS).

NON-PROFIT AND VOLUNTEER

Love Binti International Uganda | Account Executive 2017 - 2018

- Co-founded an international non-profit, secured UN funding for establishing wells, sanitation, and school infrastructure, impacting underserved communities.
- Designed and implemented scalable programs in partnership with public sectors to teach agriculture and microeconomics, applying data analytics to measure outcomes, empower women, and promote gender equality.
- Facilitated partnerships to secure donations of computers from ACER and solar panels from TSMC, incorporating technology for sustainable development. Presented data-driven oral and written reports to investors and stakeholders.

Joy In Family Org. | STEM & English Teacher 2016 - 2023

AWARDS AND HONORS	• Scholarship Grantee , Fulbright Researcher & Scholar	2023 - 2025
	• AI Cup Mango Image Recognition Challenge Taiwan Ministry of Education	2020
	• Academic Scholarship , National Tsinghua University	2018 - 2022

SKILLS	<p>Languages: English, Mandarin. Programming: Python, R.</p> <p>Skills: Machine Learning (Statistical ML, Deep Learning, Reinforcement Learning, Graph Neural Networks), Generative AI (Large Language Models, Retrieval Augmentation Generation, LangGraph), Data Engineering (ETL, Data Pipelines, API Development, SQL, NoSQL, Databases), Mathematical Optimization.</p> <p>Python Libraries: PyTorch, TensorFlow, Scikit-learn, NumPy, Pandas, DGL, PyG, Hugging Face Transformers, MuJoCo, OpenAI Gym</p>
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