Qiulu Peng

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EDUCATION

Carnegie Mellon University Pittsburgh, PA, USA

Master of Science in Artificial Intelligence - ECE 08/2023-12/2024(expected)

- Courses: Intro to ML, Trustworthy AI, Deep learning

University of Cincinnati Cincinnati, OH, USA

Bachelor of Science in Electrical Engineering 09/2022-06/2023

- GPA: 3.74/4.0
- Courses: Industry AI and big data, Intelligent System, Digital image Processing

Chongqing University Chongqing, China

Bachelor of Engineering in Electrical Engineering and Automation 09/2018-06/2023

- GPA: 87.2/100
- Courses: Modeling, Calculus, Semiconductor, Prob&Stat, Machine Learning

RESEARCH PROJECTS

Carnegie Mellon University

Evasion attack on LLMs

Advisor: Yuejie Chi, Aswin Sankaranarayanan

- This project starts with random perturbations while exploring more ways to generate adversarial examples. After testing different types of perturbations, we hope to reveal the limitations and biases of these models.

Perturbation attacks / defenses on LLM for vulnerability detection

Advisor: Limin Jia

- Evaluates model performance under perturbation and proposes prompt-based defenses against these attacks.

University of Cincinnati

Bi-Level Clustering Model to Maximize the Profits of Demand Response Aggregators in Electricity Markets

- Developed a bi-level clustering model to maximize the profits of demand response (DR) in electricity markets.
- The model was designed to increase the economic benefits of DR aggregators under power flow constrains, improve computational efficiency using multiple-parametric programming method, and reduce carbon emission in the power system by carbon pricing mechanism.

IMS Center & Industrial AI Center Lab

- Implement the analytical tools to assess the health of the shaft in a rotor-bearing system and predict the Remaining Useful Life of an unspecified engineered system.

State Key Laboratory of Power Transmission Equipment & System Security and New Technology

Research Assistant of Professor Yu Juan's Team

A Data-Driven Optimal Power Flow Method

- Simulated power flow and power system IEEE standard by Python. Built CNN neural networks for training, used the trained model to perform optimal power flow calculation methods. Finally resulted a patent for the model and calculate method.

Infrared insulator recognition based on mask RCNN

- Applied image segmentation and recognition in power engineering of State Grid, proposed pre-processing and algorithm strategies for image processing independently.
- Built the integrated neural network with transformer, improved the accuracy from below 10% to 85%, which was successfully applied to the State Grid industry.

INTERNSHIP

NARI Technology Co., Ltd. (State Grid) Nanjing, China

Configuration Test Engineer Assistant 09/2020-12/2020 & 05/2021-07/2021

- Assisted in building and testing the integrated monitoring system on Linux and Windows systems. Maintained daily databases and commissioned industrial control cabinets.

Siemens Power Automation Ltd. Nanjing, China

Research Intern 01/2020-04/2020

- Researched the power industry and analyzed the trend of the power industry. Wrote research reports and literature reviews independently, updated the technical reports of R&D Department.

HONORS AND AWARDS

Graduation with Cum Laude, University of Cincinnati 04/2023

Dean's List, University of Cincinnati Fall 2019& Fall 2021&Fall 2022

Excellent Young Volunteer in Chongqing 06/2022

Merit Scholarship, Chongqing University 07/2020

Outstanding Leader of Student Union, Chongqing University 06/2020

ACTIVITIES

Teaching Assistant in EECE4038C Embedded System Design 01/2023-04/2023

Global Youth Leadership Academy (United Nation Industrial Development Organization), *Engineer* 07/2022

International interdisciplinary Contest in Modeling, *Modeler* 02/2022

ADDITIONAL INFORMATION

Skills: Python, MATLAB, C/C++, CAD, assembly language, Microsoft Word, Excel, PowerPoint

Languages: English (proficient), Chinese (native)

Hobbies: Economics, Computer games, Photography