

# Qiulu Peng

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## EDUCATION

### Carnegie Mellon University

Pittsburgh, PA

Master of Science in Artificial Intelligence Engineering - ECE

08/2023-12/2024(expected)

- GPA: 3.90/4.0
- Courses: Trustworthy AI, Deep learning, AI System&Tool Chains

### University of Cincinnati

Cincinnati, OH

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

Mentor: Weiran Lin

- This project explored two methods of evasion attacks: a white box attack based on SALSA score and a prompt-based attack. The project specifically targets the Transformer structure models.

Robustness of Code LLMs to Random Perturbations w.r.t Functional Correctness

Advisor: Limin Jia

- Evaluate robustness of code LLMs w.r.t code functionality using random perturbations. Evaluate random semantics-preserving perturbations cause the LLM to produce functionally incorrect code.

### University of Cincinnati

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

*Senior Capstone Project*

- Developed a bi-level clustering model to maximize the profits of demand response (DR) in electricity markets. Responsible for machine learning algorithm and implementation.
- The model was designed to increase the economic benefits of DR aggregators under power flow constraints, 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 – CQU

*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 in 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, achieved the accuracy to about 85%, which was successfully applied to the State Grid industry.

## INTERNSHIP

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### NARI Technology Co., Ltd. (Subcompany of State Grid)

Nanjing, China

*Configuration Test Engineer Assistant*

09/2020-12/2020 & 05/2021-07/2021

- Assisted in deploying 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

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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

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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

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**Skills:** Python, C/C++, MATLAB, CAD, assembly language, Google Cloud, AWS, Github

**Languages:** English (proficient), Chinese (native)

**Hobbies:** Economics, Computer games, Photography, Cooking