Qiyuan (Johnny) Wang

646-549-7859|wqy213@yeah.net

EDUCATION

Columbia University — **New York, NY**
Master of Science, Statistics — **08/2022 - 01/2024**
Relevant Graduate Coursework: Statistical Inference: A+, Bayesian Analysis: A, Regression Analysis: A, Data Mining: A
The Chinese University of Hongkong — **Shenzhen, China**
Bachelor of Science, Statistics, Data Science — **09/2018 – 06/2022**

ACADEMIC EXPERIENCE

Columbia University — **New York, NY**
Research — **08/2022 – Present**

- Designed and implemented a novel time-frequency domain algorithm to cluster high dimensional time series data obtained from human brain during surgery. Collaborating for a peer-reviewed paper to be submitted by August 2023.

Teaching

- TA-ing for a graduate course in Linear Models

PUBLICATIONS

- First author of "Clustering Enabled Few-shot Load Forecasting", published on IEEE Sustainable Power and Energy Conference, 2021. https://doi.org/10.1109/iSPEC53008.2021.9736051

PATENTS

- Main inventor of "A clustering based few-shots load forecasting method, device, equipment and storage medium". Patent number: CN202111200796.

PROFESSIONAL EXPERIENCE

Shenzhen Institute of Artificial Intelligence and Robotics for Society — **Shenzhen, China**
Research Assistant (Part-time) — **05/2020 – 06/2022**

- Designed and built the federated learning platform for random forest, regression model and object detection task in industrial environment.
- Designed and implemented the federated learning framework UI. Repository: https://github.com/118010298/FedUI
- Was responsible for the data mining and visualization work within the research department.
- Was responsible for the survey and writing of papers related to federated learning.

The Chinese University of Hongkong — **Shenzhen, China**
Undergraduate Research Assistant — **12/2019 – 06/2022**

- The first author and the presenter of "Clustering Enabled Few-shot Load Forecasting", published on IEEE Sustainable Power and Energy Conference, 2021. https://doi.org/10.1109/iSPEC53008.2021.9736051
- The main inventor of an approved patent: "A clustering based few-shots load forecasting method, device, equipment and storage medium". Patent number: CN202111200796.

Hangzhou City Brain Operation Command Center — **Hangzhou, China**
Summer Engineering Intern — **07/2021 – 09/2021**

- Implemented part of the source code of the MySQL database storing Index of urban ecology in Zhejiang Province.
- Implemented Python script for data query and selection.
- Offered return visits to citizens with health code and vaccination issues by querying information from the database.

PROJECTS EXPERIENCE

Code-Free User Interface for Federated Learning — **05/2021 – 06/2022**

- Designed and developed a code-free UI based on FedVision using Bokeh and Docker. Encapsulated the entire environment as an executable file. Repository: https://github.com/118010298/fedvision, https://github.com/118010298/FedUI

- Advertised our UI app and FedVision framework to China Southern Power Grid Corporation. Instructed the company on cluster deployment of our framework and introduced the usage of the UI.

Stochastic Input against adversarial samples in federated learning **06/2021 – 03/2022**

- Conducted a survey of adversarial machine learning. Assessed the feasibility of corresponding approaches against noisy label data in federated scenario.
- Applied stochastic input transformation and differential privacy to against noisy label dataset in federated learning.

SQL database and query system for the Structure Inventory and Appraisal of US Nation's Bridge **12/2019 – 02/2021**

- Constructed an SQL database and query system for the structure inventory and appraisal of the nation's bridge. Repository: https://github.com/118010298/ERG3010_Database
- Implemented robust regression model to forecast annual traffic flow.
- Applied singular value decomposition and matrix factorization for missing value recovery and data cleaning.

ADDITIONAL INFORMATION

- Python (fluent), R (fluent), C++ (comprehend), MySQL (fluent), Shell (fluent), Java (comprehend), Matlab (Comprehend)
- English (full professional), Mandarin (native), French (conversant)
- Personal Website: https://qiyuanwang213.com/