

Qiyuan (Johnny) Wang

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EDUCATION

Columbia University Master of Science , Applied Statistics Relevant Coursework: Statistical Inference: A+, Bayesian Analysis: A, Regression Analysis: A, Data Mining: A The Chinese University of Hongkong Bachelor of Science , Statistics, Data Science PROFESSIONAL EXPERIENCE	New York, NY Present Shenzhen, China 09/2018 – 06/2022
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Columbia University <i>Research Assistant (Part-time)</i>	New York, NY 08/2022 – Present
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- Designed and implemented the algorithm for time series clustering for brain surgery data based on feature extraction in both time and frequency domain.
- The corresponding author for a journal paper expected to be released in March 2023.

Shenzhen Institute of Artificial Intelligence and Robotics for Society <i>Research Assistant (Part-time)</i>	Shenzhen, China 05/2020 – 06/2022
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- 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 <i>Undergraduate Research Assistant</i>	Shenzhen, China 12/2019 – 06/2022
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- 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 <i>Summer Engineering Intern</i>	Hangzhou, China 07/2021 – 09/2021
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- 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
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- 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
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- 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
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- 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/>