Farley Wang

415 West 115th Street New York, NY 10025 | (646)-769-0289 | fw2412@columbia.edu | linkedin.com/in/farley-wang

EDUCATION

COLUMBIA UNIVERSITY New York, NY

MS in Electrical Engineering *Sep 2023—present*

- Core Course: Computer Networks, Cloud Computing, IOT – Intelli & Connected SYS, TPC: Net Virtual & Cloud Computing

SICHUAN UNIVERSITY Sichuan, China

B.E in Automation (Excellent Engineer Training Program), Major GPA: 3.81 *Sep 2019—Jul 2023*

- Second, Third Class Learning scholarship of Sichuan University in 2021, 2022
- The bronze prize, from Innovation and Creativity Competition in 2022

ACADEMIC PROJECTS

Microservices-based production management system *Sep 2023 - Nov 2023*

- Responsible for the customer information management part, based on SpringBoot wrote the customer information addition, deletion, modification and checking.
- Made the login system and designed the front-end request page based on ajax, which has been deployed on Amazon cloud.
- Two types of databases, MySQL as well as Mango DB, were used to store customer information and Mybatis was used to speed up the development process.

ESP8266-based Smartwatch *Sep 2023 - Nov 2023*

- Using MicroPython, implemented the ability to set an alarm, change the time, and change the screen brightness with the environment.
- Wrote apps that run on Android that allow users to control the watch's functions directly by voice
- Based on accelerometers and neural networks, it senses changes in posture and gives back. Taking it a step further, allowing the user to input letters directly using gestures

Enhancing the Generalization Ability of Deep Learning *Jul 2021 - Feb 2022*

- Proposed a module that can improve the generalization ability of the convolutional neural network in the field of signal modulation recognition, and designed the ElsNet based on this module
- Proposed the channel optimization module, which can generate contribution weights for the channel of each block, thereby implementing both attention mechanism and pruning for the network
- ElsNet successfully beats the more popular neural networks, such as CLDNN and transformers, at present. Contributed to the research paper that has been published in Applied Intelligence as the first author

PROFESSIONAL EXPERIENCE

Southwest Minzu University Chengdu, China

Assistant Researcher *May 2023 - Present*

- Invited to collaborate with Prof. Ruisen on research projects, of which three have been completed. One of them has been peer-reviewed and supported by a national grant.
- Using the theoretical methods of information redundancy and channel model modeling to design more efficient signal detection reduction algorithms, and programming algorithms in Python
- Solving the problem of neural network accuracy deterioration caused by different source data sets by optimizing the migration learning method, discussing algorithm optimization schemes with lab members, and working on code writing and data organization

State Key Laboratory of Civil Aircraft Flight Simulation Shanghai, China

Verification Engineer *May 2022 - Aug 2022*

- Assisted the engineers in building the modeling of the aircraft flight simulation system through the UE engine and was responsible for the state space modeling of the aircraft fuel metering flaps using C++
- Participated in the R&D team to write control algorithms for the robot arm motion trajectory through FPGA and automatic control knowledge. Finally, we successfully solved the problem of workpiece placement on the production line

SKILLS

Java: Spring, Spring MVC, Spring Boot, Spring Cloud, Mybatis, Mybatis plus, Maven
Python: TensorFlow, NumPy, MicroPython
Database: MySQL, Mango DB, Druid
Other: Kafka, MATLAB, HTML, CSS, Git, Microsoft Office, LaTeX

PUBLICATION

- **Faquan Wang**, Yucheng Zhou, Hanzhi Yan, Ruisen Luo. Enhancing the Generalization Ability of Deep Learning Model for Radio Signal Modulation Recognition. https://link.springer.com/article/10.1007/s10489-022-04374-7
- Binghang Zou, Hanzhi Yan, **Faquan Wang**, Yucheng Zhou, Zeng Xiaodong. Research on Signal Modulation Classification under Low SNR based on Resnet Network. https://doi.org/10.3390/electronics11172662
- Binghang Zou, Xiaodong Zeng, **Faquan Wang**. Research on Modulation Signal Recognition Based on CLDNN Network. https://doi.org/10.3390/electronics1109137