Facheng Yu

fachengy@uw.edu | (206) 677-6512 | Seattle, WA | https://fachengyu.github.io/

SUMMARY OF QUALIFICATIONS

- ➢ Extensive experience in machine learning applications and managing big dataset.
- ➢ Computer skills: Proficient in Python; familiar with MATLAB and R.
- ➢ Languages: English (fluent) and Chinese (native).

EDUCATION

University of Washington – Seattle, WA, USA   2023-2025(expected)
Master of Science (expected) in **Statistics**

- ➢ Relevant Coursework: Statistical Learning; Statistical inference; Design and Analysis of Experiments.

Wuhan University - Wuhan, China   2019-2023
Bachelor of Science in **Mathematics and Applied Mathematics**

- ➢ Cumulative GPA: **3.84**/4.0.
- ➢ Probability (96/100), Stochastic Process (95/100), Real Analysis (90/100), Functional Analysis (92/100), Advanced Algebra (94/100), Machine Learning (88/100), Differential Geometry (99/100).

PROJECTS EXPERIENCE

Integrating single-cell Hi-C and single-cell RNA sequencing data
Genome Sciences Hackathon at Noble Lab, University of Washington   09/2023-09/2023

- ➢ Compare and contrast the integration performance of UnionCom and MMDMA between single-cell RNA and three different single-cell Hi-C representations (CDP, LDA, HiCRep).

A Precipitation Prediction System Based on Machine Learning and Multi-source Data
Undergraduate Innovation Project, Wuhan University   04/2021-09/2022

- ➢ Researched the threshold method with the water vapor, including analyzing the related work in the rain nowcast, proposing ideas for improvement, and testing the effects.
- ➢ Gave a clear description of the rain events to help define the evaluation indexes, and achieved 92% average correct rate.

The Application of Deep Learning in Multi-view Commodity Recognition
Computer Vision & Remote Sensing Lab, Wuhan University   10/2021-01/2022

- ➢ Transferred the models for face recognition into commodity recognition and then the supervised contrast learning.
- ➢ Proposed a weighted method for the retrieval in the embedding space, successfully achieving a Top-5 accuracy of nearly 100% for the recognition in videos.

Video Summarization with Flexible Multi-agent Reinforcement Learning
Project-based Learning in Artificial Intelligence, University of Cambridge   07/2021-08/2021

- ➢ Helped explain the deep reinforcement learning structures and corresponding formulas to group mates.
- ➢ Built a network based on LSTM to generate the policy and optimized the model with the Monte Carlo method.

ADDITIONAL EXPERIENCE

Blackwell's Approachability and Online Learning   08/2022-01/2023

Department of Statistics and Operations Research, University of North Carolina at Chapel Hill

- ➢ Researched the problems and classic models in online learning.
- ➢ Finished a report about Blackwell's approachability and its applications.

Balanced Network Models of Cortical Circuits   01/2021-02/2021

Online Winter Program in Theoretical Neuroscience, University of Cambridge

- ➢ Solved the linear system to get the theoretical mean and variance of the neurons' spiking based on the leaky integrate-and-fire model.
- ➢ Implemented the code to simulate the interactions of the excitatory, the inhibitory, and the external neuron population.

Examples and Exercises of Big Data Analysis   06/2020-08/2020

Online Summer School, Yau Mathematical Sciences Center, Tsinghua University

- ➢ Finished several projects, including the crowd simulation with agent-based modeling, the ticket prediction with multiple linear regression, ingredient proportion with adjacent interpolation, and industrial quality control with SVM.

SCHORLARSHIPS AND HONORS

- ➢ Asia and Pacific Mathematical Contest in Modeling (Third Prize), 2022
- ➢ The Chinese Mathematics Competition (Third Prize), 2020, 2021
- ➢ Excellent Student Scholarship, Wuhan University, 2020, 2021, 2022