

# Facheng Yu

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## EDUCATION

**University of Washington, Seattle - WA, USA** 09/2023-06/2025  
*Master of Science in Statistics* (expected)

**Wuhan University - Wuhan, China** 08/2019-06/2023  
*Bachelor of Science in Mathematics and Applied Mathematics*  
➤ Cumulative GPA: **3.84/4.0, 90.3/100.**  
➤ Honors & Awards:  
Asia and Pacific Mathematical Contest in Modeling (Third Prize) 2022  
The Chinese Mathematics Competition (Third Prize) 2020&2021  
Excellent Student Scholarship of Wuhan University 2021&2022

## RESEARCH EXPERIENCE

**Blackwell's Approachability and Online Learning** 08/2022-01/2023  
*Department of Statistics and Operations Research, University of North Carolina at Chapel Hill; working with Prof. Guanting Chen*

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

**A Precipitation Prediction System Based on Machine Learning and Multi-source Data** 04/2021-09/2022  
*Undergraduate Innovation Project at Wuhan University; working with Prof. Yidong Lou and Prof. Weixing Zhang*  
➤ 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.

**The Application of Deep Learning in Multi-view Commodity Recognition** 10/2021-01/2022  
*Computer Vision & Remote Sensing Lab, Wuhan University; working with Prof. Jian Yao*  
➤ 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.

## ACADEMIC PROJECT EXPERIENCE

**Video Summarization with Flexible Multi-agent Reinforcement Learning** 07/2021-10/2021  
*Remote Project-based Learning in Artificial Intelligence; University of Cambridge*  
➤ 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.

**Balanced Network Models of Cortical Circuits** 01/2021-02/2021  
*Remote Project-based Learning 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.

## ACTIVITIES

**Journalist, New Media Center, Wuhan University** 09/2020-06/2021  
➤ Interviewed standouts, recorded big events on campus, and wrote articles on the school's WeChat official account.

## SKILLS & INTERESTS

- Language proficiency: Native in Chinese Mandarin; fluent in English.
- Computer skills: Proficient in Python; familiar with MATLAB.
- Hobbies: Swimming and mini-Marathon.