Mingyu **Wang**

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Education

University of Wisconsin-Madison *Madison, USA*

VISITING STUDENT AND M.S. IN STATISTICS *Sep 2021 - Dec 2023*

- Visiting Student from Sep 2021 to May 2022

University of Science and Technology of China *Hefei, China*

B.S. IN STATISTICS *Sep 2017 – June 2022*

- Thesis: Optimal service rate control policy considering patients' retrial (in Chinese).
- Advisor: Prof.Ping Cao (USTC Dept. of Management Science)

Research Experience

Optimization of Credit Bond Index Portfolios Based on Multi-Factor Risk-Return Model *Shanghai, China*

HUATAI SECURITIES CO.,LTD. *July 2023 - Sep 2023*

- This work focused on how to construct portfolios by using several underlying credit bond indexes of different implied credit ratings and maturity dates. Our goal is tracking the target bond index and attaining excess return.
- We used multi-factor risk-return model to identify the common factors of underlying indexes and predict the return and variance of portfolio.
- In the portfolio optimization phase, we set the sharp ratio as the objective function and considered the constraints like duration matching and only going long on bond indexes.

Optimal service rate control policy considering patients' retrial *Hefei, China*

USTC *Feb 2022 - June 2022*

- This work considered such a circumstance: suppose that the patients might come back to the queue after get treatment at a hospital, how to optimally control the service rate of servers to minimize the overall cost.
- We developed a 2-dimensional queuing model, which has a single server with adjustable service rate. Then we used policy iteration algorithms to get the optimal policy under longrun criterion. The numerical result showed that the optimal policy has a threshold structure and is robust.

Core Courses

Mathematics	Mathematical Analysis(3 terms), Linear Algebra(2 terms), Real Analysis, Complex Analysis, Functional Analysis
Probability	Probability Theory, Applied Stochastic Processes, Advanced Probability Theory, Stochastic Processes(measure based)
Statistics	Mathematical Statistics, Time Series, Multivariate Analysis, Regression Analysis, Non-parametric Statistics, Catagorical Data
Related Courses	Convex Optimization, Operation Research, Statistical Learning, Stochastic Analysis(Audit)
Code	Python, R, C, Linux, Mathematica, Matlab

Academic Experience

Stochastic Processes in Finance Seminar *Madison*

UW-MADISON *Jan 2023 - May 2023*

- Mainly discussed about portfolio dynamics, the martingale approach to arbitrage theory, completeness and hedging, Girsanov theory, Black-Scholes.

Teaching Assistant for Stochastic Processes A *Hefei, China*

USTC *Feb 2022 - June 2022*

- Responsible for giving assignment lectures, office hour and grading
- Got top 5% TA rate score among all TAs in 2022 spring semester

Student Research Intern *Hong Kong, China*

COLLEGE OF ENGINEERING, CITYU *June 2021 - Aug 2021*

- Read papers about Reliability and Quality Control, especially in Support Vector Regression method.

Honors & Awards

2022	**Award**, Outstanding Teaching Assistant of USTC	*Hefei, China*
2018	**Scholarship**, Bronze Prize for Outstanding Freshmen Scholarship	*Hefei, China*

Extracurricular Activity

Quant research internship *Shanghai, China*

HUATAI SECURITIES CO.,LTD. *July 2023 - Sep 2023*

- Research how to use multi-factor model to construct credit bond index strategies, including factor mining, model building and portfolio optimization.

Linear Algebra Tutor *Hefei, China*

USTC *Mar 2022 - June 2022*

- Taught undergraduate level linear algebra course

Student Union at School of Management, USTC *Hefei, China*

Executive Vice-President *Sep 2017 - June 2020*

- Assisted in organizing campus events such as dances, photo exhibitions and academic conferences
- Training of colleagues new to the student union.

Summary

I am deeply passionate about the theory of probability and stochastic processes, and their application like the fields of stochastic control and mathematical finance. In the past years, I have tried my best to take as more relevant courses as I can. And also I have some internships in invest banks, which helped me to understand the real finance market. I hope to have the opportunity to do some research for bridging theory and practice in this field.