

Jiahui Shui

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EDUCATION

University of California, San Diego

Master of Finance

- Relevant courses: Macroeconomics(*PhD*), Financial Econometrics

San Diego, CA
Sep 2023–Aug 2024

Southwestern University of Finance and Economics, School of Finance

Bachelor of Economics in Finance and Artificial Intelligence | GPA 4.2/5.0 (WES 3.91/4.0)

Bachelor of Science in Mathematics (Honors)

- Relevant courses: Optimization Theory, Stochastic Differential Equations, Numerical Analysis, Partial Differential Equations; Financial Stochastic Analysis, Financial Derivatives, Econometrics; Machine Learning, Deep Learning, Natural Language Processing

Chengdu, China
Sep 2019 – Jun 2023

University of California, San Diego

Exchange Student | GPA: 4.0/4.0

- Relevant courses: Stochastic Process, Optimization for Data Science, Probability Theory(*PhD*), Stochastic Calculus for Continuous-Time Finance

San Diego, CA
Mar 2022 – Jun 2022

RESEARCH INTERESTS

Asset pricing, financial markets, microeconomics

RESEARCH EXPERIENCE

Roll Over Risk with Stochastic Interest Rate

Research Assistant, Advisor: Prof. Jun Pan (SAIF), Prof. Jun Liu(UCSD)

- Derived the spread yield under a stochastic interest rate model
- Simulated various parameter scenarios using MATLAB
- Examined and summarized the effects of risk-free rate and volatility parameters on yield spread

Mar 2023 – Present

Malliavin Calculus and Its Application in Option Pricing

Undergraduate Thesis, Advisor: Prof. Yu Zheng(SWUFE)

- Derived new method for computing option Greeks using Malliavin calculus
- Compared Malliavin's method with finite difference method by numerical experiments
- Applied Malliavin calculus to compute Snowball Structure Products' Greeks

Oct 2022 – Mar 2023

Stochastic Optimal Control in Pair Trading

Advisor: Prof. Qi Wang(SWUFE)

- Built SDE model for two stock time series with time-varying volatility
- Derived the HJB equation linked to the optimal problem and solved it explicitly
- Estimated parameters for two stocks using the generalized method of moments
- Implemented strategy by using numerical methods to solve the HJB equation

May 2021 – Jul 2021

Rational Decision Making Analysis of Repetition for College Entrance Examination

With Prof. Zhan Wang(SWUFE)

- Constructed an ex ante fair test distribution functions and demonstrated the fairness of the test admission mechanism based on it
- Simulated examinations with various parameters using MATLAB
- Proposed a policy to alleviate the repetition of the exam

Nov 2019 – May 2020

WORKING PAPER

Loss Aversion with Portfolio Choice

with Jun Liu(UCSD) and Kai Li(Macquarie University)

This paper provides a comprehensive analysis of portfolio choice under prospect theory. We show that there is no optimal solution for half of the parameter space in which loss aversion is low. However, there always exist optimal solutions for the other half of the space. The lower bound of loss aversion above which optimal solutions exist increases without bound as asset returns become more skewed or the number of states increases. When the optimal solutions exist, their properties depend crucially on investor's initial wealth level. For example, an investor with low initial wealth seeks negative skewness and may long (short) an asset with a negative (positive) risk premium.

PROFESSIONAL EXPERIENCE

Luoshu Investment

Quantitative Researcher, Equity Derivatives, Intern

- Tracked and Analyzed domestic and international options markets quantitatively. Wrote analysis reports
- Modeled and forecasted implied volatility surface of OTC options using big data and various advanced techniques
- Developed quantitative trading strategies for financial derivatives and securities

Shanghai, China
Feb 2023 – Jun 2023

Harvest Fund

Quantitative Researcher, AI Lab, Intern

Beijing, China
Jul 2022 – Sep 2022

- Conducted market research, developed fundamental quantitative investment strategies and broad asset class allocation strategies
- Mined effective alpha factors, including but not limited to stock fundamental factors, behavioral factors
- Used Python to implement stock selection strategy and conduct backtest system to demonstrate their effectiveness
- Tracked performance of the strategy and reported to the manager directly

Inboc Technology
Quantitative Analyst, Intern

Chengdu, China
Jun 2021 – Sep 2021

- Developed automatic matching markers for financial time series anomaly points, news screening, and summary writer using artificial intelligence technology
- Estimated anomaly points using mathematical methods efficiently and conveyed them to colleagues for processing
- Designed web-based interactive programs to present financial time series charts and focus news to analysts

AWARDS and SKILLS

Outstanding Graduates of class 2023, SWUFE	2023
SWUFE Academic Scholarship(top 1%)	2021, 2020, 2019
The 1 st Prize in The Chinese Mathematics Competition	2021
2020 The 1 st Prize in The Chinese Mathematics Competition	2020
2020 Mathematical Contest In Modeling (Honorable Mention)	2020
Programming skills: Python, MATLAB, C++, R, SQL, MS Office, Latex	
Languages: Chinese (native), English (proficient), TOEFL: 104, CET6:599	

OTHER INFORMATION

Personal Website: <https://benshui.github.io>

Volunteers: XW Bank(Team Manager); SWUFE Red Cross member