Keyu Wen

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1 Yanqi Lake East Road, Huairou, Beijing, China · University of Chinese Academy of Sciences (Yanqi Lake Campus) · 101408

EDUCATION

Academy of Mathematics and Systems Science, Chinese Academy of Sciences Beijing, China

PhD in Science | Operations Research | Combinatorial Optimization (Expected) 2024.09 - 2029.06

Zhejiang University Hangzhou, China

Bachelor of Science | Mathematics and Applied Mathematics 2020.09 - 2024.06

GPA: 3.93/4.0 **Rank**: 4/66

Core courses: Abstract Algebra, Real Variable Analysis, Complex Variable Functions, Mathematical Analysis (97), Advanced Algebra (96), Geometry (99), Numerical Algebra (95), Scientific Computing (100), Probability Theory, Mathematical Statistics (95), Partial Differential Equation (97) , Mathematical Modeling (H), Combinatorial Optimization, Optimized Practical Algorithm, Data Modeling and Analysis

Honors: Outstanding Graduate of Zhejiang Province, Scholarship of Zhejiang Province, China Petroleum Scholarship, 2nd-class scholarship of Zhejiang University, Excellent Youth League Cadres of Zhejiang University

AWARDS

- 1st-Prize of the 13th CMC (Mathematics A Class) 2021.12
- Provincial 2nd-Prize of CUMCM-2022 2022.09
- 1st-Prize of the 14th CMC (Mathematics A Class) 2022.12

RESEARCH PROJECTS

Research on Information Dissemination Based on SEIR and Statistical Inference Hangzhou, China

Team Leader (3-member team), Zhejiang Provincial "Xinmiao Talent Plan" Project 2022.03 - 2023.05

- Developed an individual state transition equation model for information dissemination based on a Markov stochastic process, considering both competitive and cooperative dynamics between different pieces of information.
- Incorporated social network characteristics and used Taylor expansion to approximate state transition equations, thereby constructing a nonlinear differential equation model to describe the information dissemination process.
- Analyzed the stability of equilibrium points in the model, employed the Monte Carlo method for simulation and validation, and applied the model to real-world scenarios to predict information dissemination trends and explore effective control strategies.

UAV Cluster Position Adjustment Model Using Genetic Algorithm Hangzhou, China

Active member (3-member team), CUMCM-2022, 2nd-Prize of Zhejiang Province 2022.09

- Developed a UAV cluster position adjustment model to enhance passive localization during formation flight, integrating Deep First Search (DFS) and genetic algorithms for optimal adjustment strategies.
- Adapted the model to support various formation types, demonstrating its versatility across different scenarios.
- Performed comprehensive sensitivity and stability analyses, confirming the model's robustness and reliability for practical applications in dynamic environments.

WORK EXPERIENCE

Hangzhou Higgs Asset Management Co., Ltd. Hangzhou, China

Quant Researcher, Intern 2023.11-2024.03

- Reconstructed the order book using Level 2 tick data, converting hourly buy/sell factors into minute-level metrics. Analyzed the performance of various combinations of these metrics.
- Examined minute-level distributions of order amounts and the behavior of buy/sell factors across different thresholds. Designed and implemented a dynamic threshold search algorithm to optimize factor selection based on historical data.
- Grouped stocks in the order pool based on indicators such as price, turnover, and total order amount, and analyzed the performance of grouped factors, leading to significant improvements in factor effectiveness.

EXTRACURRICULAR EXPERIENCE

- **Leadership activities**: The monitor of Class 2001 of Mathematics and Applied Mathematics(2021.09 - 2024.06)
- **Voluntary activities**: 2021 Senior Group of Danqing Community, Qiushi College, Zhejiang University

SKILLS

- **Computer skills**: Python (PyTorch), MATLAB, LINGO, LaTeX
- **Languages**: Chinese(native, Putonghua Level II, Grade A), English(CET-6 495)
- **Hobbies**: Table tennis, Photography, Cycling