Chenyi(Cheney) Tong

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Education

Wuhan University

B.S. in Mathematics(National Plan for Strengthening Basic Disciplines) *Sep. 2022 – Jun. 2026(Expected)*

- **GPA:** 88.6/100(Top5%)
- **English Proficiency:** IELTS 7.5, CET-6
- **Core Curriculum:** Real Analysis, Optimization Theory and Methods, Probability and Statistics

University of Wisconsin–Madison

Visiting International Student Program *Sep. 2025 – Jun. 2026(Expected)*

Research Interests

- **Decision-making under Uncertainty:** Chance constraints, distributionally robust optimization, scenario-based and risk-aware formulations.
- **Statistical Machine Learning:** Emphasizing the mathematical and algorithmic foundations of deep learning, generative models, and sampling methods.

Honors and Awards

- **Outstanding Teaching Assistant for Fall 2024 Semester**, Wuhan University, Mar. 2025
- **Top 15% in the National Undergraduate Mathematics Competition (Mathematics Major Group)**, China, Nov. 2024
- **University Scholarship for 2023–2024 Academic Year**, Wuhan University, Sep. 2024
- **Honorable Mention**, Mathematical Contest in Modeling (MCM/ICM), US, May. 2024
- **Luojia Outstanding International Exchange Scholarship**, Wuhan University, Nov. 2023
- **Huang Zhangren Special Scholarship for Merit Student**, Wuhan University, Sep. 2023
- **University Scholarship for 2022–2023 Academic Year**, Wuhan University, Sep. 2023

Teaching and Teaching Assistantship

Teaching Assistant Sep. 2024 – Jan. 2025

School of Computer Science, Wuhan University

- **C Programming** (Undergraduate level)
- Supervisor: Prof. Yangfan He
- Provided lab support and resolved coding issues for 50+ students.
- Assisted in grading and analyzing assignment performance.
- Recorded weekly walkthrough videos to clarify key concepts.

Research Experience

Summer Research Intern Mar. 2025 – Present

The Hong Kong University of Science and Technology

- **Advisor:** Prof. Nan Jiang
- **Topic:** Chance-Constrained Bilevel Optimization for Physician Scheduling [**Slides:** link]
- Conducted research in stochastic programming with a focus on chance-constrained mixed-integer models for healthcare scheduling under uncertainty.
- Formulated bilevel optimization models to capture hierarchical decision structures and probabilistic service level requirements.
- Designed scenario approximation approaches and implemented Benders-type decomposition to improve scalability and solution quality for large-scale instances.
- Developed and tested computational experiments using Gurobi on realistic scheduling datasets.

Quantitative Finance Research Assistant Oct. 2022 – May. 2025

Wuhan University & E Fund Management Co., Ltd.

- **Supervisor:** Haodong Huang, Fund Manager at E Fund Management

- Pair Trading: Developed and implemented pair trading strategies to exploit price relationships between correlated assets.
- Style Rotation Strategy Research: Researched and developed strategies for style rotation to optimize portfolio performance based on market conditions.
- Dividend Factor Timing: Constructed dividend-based timing signals using fundamental and macroeconomic indicators; validated their predictive power on sector rotation and high-dividend stock strategies.

Research Seminar on Irrational Numbers and Algorithms Sep. 2024 – Jan. 2025

Institute of Math and AI, Wuhan

- **Supervisors:** Academician Pingwen Zhang and Prof. Kai Jiang
- Conducted literature review on projection methods in quasicrystal computation, focusing on their mathematical formulation and algorithmic implementation.
- Studied numerical algorithms for irrational rotations and their applications in modeling aperiodic systems.

Other Experience

Directed Reading Program Feb. 2025 – Present

Wuhan University

- **Organizer:** Prof. Yuling Jiao
- **Topic:** Mathematical Foundations of Data Science
- Analyzed the mathematical theory of supervised learning models, including regularization methods (Lasso), SVM, and their formulation via ERM.
- Delivered a presentation on the convergence properties of Stochastic Gradient Descent (SGD) for solving ERM problems.

Summer School Student Jul. 2024 – Aug. 2024

Westlake University

- Studied number-theoretic aspects of Diophantine approximation and its applications to integer equations.
- Learned stochastic simulation techniques with applications to probabilistic modeling.

Summer School Student Jul. 2023 – Aug. 2023

University of Cambridge

- **Research Topic:** Reinforcement Learning
- **Group Project:** Multi-Agent Deep Learning Algorithm MADDPG
- **Grade:** A+

Projects

Traffic Signal Cycle Recognition | *Python, SPSS, Tableau* May. 2024 – Jun. 2024

- Developed a signal light state timeline using vehicle trajectory data and applied FFT technology to estimate signal light cycles.
- Detected signal light cycle switch times using an optimized KNN and sliding window algorithm.
- Classified vehicle trajectories and independently estimated cycles for 12 traffic signals at complex intersections.

Technical Skills

Languages: Python, Matlab, C/C++, SQL (Postgres)
Developer Tools: Git, Google Cloud Platform, VS Code, Visual Studio, PyCharm
Libraries: Gurobi, pandas, NumPy, Pytorch