Zhizhou Liu

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2019-2023.06: BSc in Mathematics, Southern University of Science and Technology
2023 Fall: MSc in Statistics, the University of Hong Kong
2024 Fall (future): Seeking for a PhD position on (applied) probability or related areas.

GRADES & AWARDS

- Undergraduate GPA: 3.57/4.0 (3.22, 3.72, 3.69, 3.69 for each academic year respectively);
- Undergraduate Weighted Average Score: 86.9/100.0; and Ranking: 26/47.
- Awards:

Name	Category	Certificate	Level	Time
Scholarship	-	Third Level & First Level	University	2021 & 2022
CUMCM	Mathematical Modeling	First Prize	Provincial	Sept. 2021
CMC	Mathematics	First Prize & Second Prize	Provincial	2021 & 2022
Governor's Cup	Football	Second Prize	Provincial	Nov. 2021
MCM	Mathematical Modeling	Meritorious Winner	International	Mar. 2022
IMC	Mathematics	Honorable Mention	International	Aug. 2022
Olympic	Mathematics	Bronze Medal	National	Apr. 2023
Undergraduate Thesis	Mathematics	Outstanding	University	Jun. 2023

KEY COURSES

- **Analysis**: Real Analysis, Functional Analysis, Measure Theory

- **Probability**: Stochastic Process, Markov Chains, Stochastic Analysis

- **Application**: Dynamical Systems, Optimization, Machine Learning
  Please refer to my transcript for further information.

WORK EXPERIENCE

- **Teaching Assistant (TA)** |*Course: Probability and Statistics (MA 212)*   Shenzhen, China|*Feb. 2022 - Jun. 2022*
  - I taught two tutorial lessons each week about elementary probability theory and statistics for a whole semster, illustrating exercise, examples and application of the theory. Their homework and quizzes are also given and verified by me. Tutoring is time-consuming but interesting.

- **Merdian Global Inc.** |*Data Analysis Intern*   Shanghai, China|*July. 2022 - Aug. 2022*
  - My work is mainly about abnormal and missing data analysis, also examining the effectiveness of factors. Here is some Python scripts and jupyter notebooks written at that time.

STUDY & RESEARCH

- **Covid-19 Prediction** |*Supported by Shenzhen Government*   Shenzhen, China|*May. 2022 - Now*
  - The research project is hosted by Prof. Zheng Zhang. I am responsible for model construction and then data assimilation. The methods of Kalman filter and its variant have been investigated. Forturnately, due to the end of the Covid-19 pandemic, the project is terminated.

- **Reading Seminar** |*Ergodicity of SDEs*   Shenzhen, China|*Oct. 2022 - June. 2023*
  - The seminar is hosted by Prof. Zhihui Liu. We have had covered topics including *stochastic caluclus and SDEs*, *ergodic theorems for Markov semigroups* and the *numerical solutions of SDEs*. My undergraduate thesis might be a reference for what I learned from the seminar, where I presented a systematic path to the ergodicity of SDE with one-sided Lipschitz coefficient.

- **Visiting Student** |*Numerical ergodicity of SDEs*   Shenzhen, China|*July. 2023 - Aug. 2023*
  - I worked with Prof. Zhihui Liu as a visiting student. We have proved the numerical ergodicity of stochastic theta method for $\theta \in (\frac{1}{2}, 1]$ with respect to SDEs with one-sided Lipschitz coefficient, a coupled coercive condition and a non-degeneracy condition of diffusion, together with some smoothness on drift. The result would be made pulic soon.

TECHNICAL SKILLS

- **Programming**: C/C++, Python, Java, R, HTML & CSS

- **Language**: Mandarin - Native; English - IELTS 7.0; LaTeX