

# Junjie(Jimmy) Ma

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## Education

### University of Toronto

Toronto, CA

Master of Science, Department of Statistical Sciences

2024.09 - 2025.11(Expected)

**Planned Coursework:** Graduate Probability Theory; Mathematical Statistics; Applied Statistics; Neural Networks and Deep Learning; etc.

### University of Toronto

Toronto, CA

Honours Bachelor of Science with High Distinction in Statistics, Quantitative Finance Stream 2020.09 - 2024.06

**Relevant Coursework:** Multivariate Analysis(100); Probability and Stochastic Processes I&II(100&97); Categorical Data Analysis(100); Differential Equations I&II(96&99); Statistics and Finance I&II (99&91); Regression Analysis(98); Survival Analysis(95); Time Series Analysis(91); Statistical Inference(90); etc.

### Hangzhou Foreign Languages School

Hangzhou, CN

High School Diploma

2017.09 - 2020.06

## Project & Research Experiences

### University of Toronto

Toronto, CA

**Independent Readings in Statistics (Advisor: Dr. Ting-Kam Leonard Wong)**

2023.09-2023.12

- Explored and summarized crucial topics in Brownian motion, including Lévy's construction, Strong Markov property, transience, regularity and cone condition, harmonic functions and martingales, etc.
- Reviewed probabilistic approaches in classical potential theory; applied Brownian motion to represent harmonic functions, to solve the Dirichlet and Poisson problem, and to construct the equilibrium measure.
- Link to the [Final Report](#).

**Research Assistant (Advisor: Dr. So-hee Kang)**

2023.05-2023.08

- Cleaned and visualized over 90,000 raw data points; investigated relationships between 15 rats' performance in detecting Tuberculosis and other factors using logistic regression models.
- Utilized k-means clustering to group rats with similar features; proposed Bayesian hierarchical models and Bayesian latent models on building the optimal rats' team.
- Performed sensitivity analysis on potential priors and hyperpriors; Coded the model in Stan and simulated the posterior distribution; Conducted posterior inference to exclude unqualified teams.
- Presented results and findings at the UTSC CMS research seminar.

## Professional Experiences

### Caitong Securities Co.,Ltd.

Hangzhou, CN

**Quantitative Research Assistant**

2024.07 – 2024.08

- Computed Cross-Correlation Function(CCF) to investigate the historical relationship between Federal Funds Rate and US500 & Shanghai index; Forecasted future stock market trends using an ARIMA-GARCH model.
- Extracted, cleaned, and analyzed the data from the Chinese stock market over the past twenty years to investigate the performance of the investing strategy proposed by the Pring Turner Approach.
- Reviewed and applied financial models that integrated information entropy and interest rate curves to identify bear markets.

### University of Toronto

Toronto, CA

**Teaching Assistant(STAB22, STAB57, STAC51, STAC53)**

2023.01 - 2024.05

- Assisted in teaching second- and third-year statistics courses covering logistic regression, Poisson regression, likelihood and Bayesian inference, applied data collection, and statistical coding.
- Held office hours and monitored online Q&A platforms to provide academic assistance to approximately 280 students; Graded assignments & exams and provided detailed feedback.
- Organized weekly tutorial sessions to discuss lecture materials with approximately 35 students; demonstrated statistical coding and data analysis techniques using R.

## KUKA GROUP

Hangzhou, CN

### Strategy Intern

2021.01 - 2021.07

- Conducted market research and customer analysis for shared massage chairs; utilized Excel to assess passenger flow data from over 100 locations.
- Evaluated market saturation using Excel-based models and simulated industry competitions.
- Accomplished feasibility analysis and offered strategically valuable recommendations and ideas.

## Skills & Interests

**Coding:** Python(proficient), R(proficient),  $\text{\LaTeX}$ (proficient), Excel(proficient), C(familiar), Java(familiar), MATLAB(familiar)

**Language:** Chinese(native), English(fluent)

**Interests:** Basketball, Badminton, Hiking, Reading