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: Ting-Kam Leonard Wong) 2023.09-2023.12

- Explored and summarized crucial topics in Brownian motion, including Lèvy'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.

Student Researcher(Advisor: 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.
- Reviewed and applied financial models that integrated information entropy and interest rate curves to identify bear markets.
- 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.

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), LaTeX(proficient), Excel(proficient), C(familiar), Java(familiar), MATLAB(familiar)
Language: Chinese(native), English(fluent)
Interests: Basketball, Badminton, Hiking, Reading