

Ruogu SUN

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🏠 Homepage Link: <https://ruogu-sun.github.io/>
🐙 Github Link: <https://github.com/Ruogu-Sun>

Education

Master in Management Science and Engineering	GPA: 3.85/4.00	2022.9 – 2025.6
School Beijing Foreign Studies University		
Thesis Data-driven Spatiotemporal Forecasting Techniques and Applications to Transportation Problems		
Thesis Supervisor Xi CHEN		
Bachelor in English (International Organization)	GPA: 3.90/4.00	2019.9 – 2022.6
School Beijing Foreign Studies University		
Thesis Attitudes of Japan, Australia, and Canada towards China’s Accession to the CPTPP from the Perspective of Two-level Game Theory		
Thesis Supervisor Liwen LI		
Honors Outstanding Graduates, Outstanding Graduation Thesis		
Overseas Study Experience	Grade: A	2021.9 – 2022.3
School University of California, Los Angeles		
Relevant Courses Advanced Statistics, Matlab and Optimization, Management Methods, Micro/Macro Economics, Econometrics, Advanced Mathematics		

Research Interests

Domain Supply Chain, Inventory Management, Transportation, Decision Making
Technique (Distributional) Robust Optimization, (Approximate) Dynamic Programming, Stochastic Modeling, Time Series Forecasting, Markov Decision Process; Game Theory.

Research Experiences Ongoing

Robust Inventory & Demand Transfer | *Main Contributor* *MORE Group, BFSU (Ongoing)*
– Multi-period robust inventory delivery problem in a network with two installations where inventory replenishment and demand transfer options available.
– Model the decision-making process that minimizes the total operational and delivery costs while meeting uncertain customer demand.
– Techniques: Robust Optimization, Markov Decision Process, Game Theory.
– Check my **Homepage** for the detailed and up-to-date description.

Research Experiences Completed

Parking Occupancy Predictions | *Main Contributor* *MORE Group, BFSU 2023.11 – 2024.7*
– **Manuscript Under Review** Chen, X., **Sun, R.**, & Ding, X. (2024). A New Forecasting Framework for Parking Occupancy Dynamics by Integrating Arrival and Departure Behaviors. *Transportation Research Part B: Methodological*
– Conceptualized the idea of using stochastic modeling that incorporates drivers’ arrival and departure behaviors to forecast the parking occupancy;
– Built mathematical frameworks for estimating model parameters and conducting real-time forecasting;
– Programmed to realize the model application and to conduct extensive experiments with baselines.
GETN Robustness & Evolvment | *Main Contributor* *MORE Group, BFSU 2022.11 – 2023.5*
– **Manuscript Under Review** Chen, X., **Sun, R.**, Li, K., & Ding, X. (2024). Robustness and evolvment of the global energy trade networks. *IEEE Transactions on Network Science and Engineering*
– Analyzed the robustness and evolvment of **Global Energy Trade Network** through 1995 - 2020 using complex network theory and Exponential Random Graph Models;
– Collected and processed the energy trade data, programmed the code for the experiments of network attacks to study robustness and the simulation of ERGMs to investigate evolvment.

Teaching Experience

Probability and Statistics	<i>Teaching Assistant, Undergraduate</i>	<i>2023.1 - 2024.1</i>
Optimization	<i>Teaching Assistant, Graduate</i>	<i>2024.1 - present</i>
- Collaborated with the course instructor to develop and design instructional slides for lectures. - Provided after-class consultations to students, offering assistance and clarifying course material.		

Selected Awards and Certifications

Master Students Second Level General Academic Scholarship	<i>BFSU</i>	<i>2024.10</i>
Master Students Second Level General Academic Scholarship	<i>BFSU</i>	<i>2023.10</i>
Master Students Special Level Academic Scholarship	<i>BFSU</i>	<i>2022.10</i>
Third-class Scholarship, Social Service Award	<i>BFSU</i>	<i>2021.10</i>
Student Award of Merit, Second-class Scholarship, Social Service Award	<i>BFSU</i>	<i>2020.10</i>
Teacher Qualification Certificate: High School English	<i>Ministry of Education</i>	<i>2022.3</i>

Skills & Languages

Programming : Python, R, MATLAB, Mathematica, SPSS
Softwares & Platforms : Linux, GitHub, Zotero, L^AT_EX
Languages : Mandarin (Native); English (Proficient); French (Excellent)

Non-academics

Volleyball	<i>Department volleyball team skipper</i>	<i>two second places, one third places in school tournament</i>
Volunteering	<i>English teacher in Beijing Blind School</i>	<i>taught one-on-one 5 visually challenged students</i>