Deyu Xu

Curriculum Vitae

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Education

2024–Present **M.S. in Statistics**, *University of Connecticut*, Connecticut, USA
GPA: 3.53/4.0
Relevant Coursework: Mathematical Statistics I & II, Linear Models I, Applied Statistics I & II, Advanced Probability I, Experimental Design
Research Focus: Developing hierarchical Bayesian models for time series forecasting under model uncertainty

2018–2022 **B.E. in Statistics**, *Shandong University*, Shandong, China
GPA: 3.18/4.0   Class Rank: Top 20% (32/158)
Honors: Outstanding Graduate (Top 10%)
Relevant Coursework: Advanced Algebra, Mathematical Statistics, Time Series Analysis, Statistical Computing, Nonparametric Statistics, Multivariate Statistical Analysis, Applied Regression Analysis

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Research Interests

Bayesian inference, time series analysis, and stochastic modeling, with methodological focus on hierarchical Bayesian models, MCMC methods, and uncertainty quantification. Applications in financial risk modeling, actuarial science, and data-driven decision making.

Research Experience

2024–Present **Graduate Research Assistant**, *University of Connecticut*, Storrs, CT
- Developing Bayesian hierarchical models for multivariate time series with structural breaks.
- Implementing advanced MCMC algorithms (Gibbs sampling, HMC) for posterior inference.

2022–2023 **Undergraduate Research Project**, *Pension Contributions and Actuarial Present Value Under Low Interest Rates*, Shandong University, Jinan, China
- Conducted empirical analysis of pension fund sensitivity to low interest rates using 20+ years of data.
- Developed stochastic short-rate models (Vasicek, CIR) to project actuarial present values under multiple scenarios.
- Implemented variance-reduction techniques in Monte Carlo simulations, improving efficiency by 35%.
- **Policy Impact:** Findings informed pension contribution adjustment policies adopted by local government.

2021–2022 **Undergraduate Research Project**, *Stochastic Interest Rate Models for Annuity Valuation*, Shandong University, Yantai, China
- Derived analytical solutions for actuarial present value under stochastic interest rates.
- Validated results through Monte Carlo experiments (10,000+ paths) with >90% agreement to benchmarks.
- Extended classical models to incorporate time-varying risk premiums.

2020 **Summer Research Participant**, *Science Summer Camp*, Shandong University, Jinan
- Reproduced foundational results in probability theory (CLT, LLN) and asymptotic properties of MLEs.

Professional Experience

2023   **Quantitative Analysis Intern**, *New China Life Insurance Company, Ltd.*, Yantai, China
- Analyzed large-scale investment portfolios (5,000+ accounts) using MATLAB and SAS.
- Developed automated validation pipelines improving accuracy by 9% and reducing processing time by 25%.
- Prepared quantitative risk reports for senior management.

2022   **Data Analytics Assistant**, *Agricultural Bank of China*, Yantai, China
- Assisted 50+ clients daily with financial services, maintaining 95%+ satisfaction rating.
- Supported data processing for customer profiling, risk assessment, and compliance reporting.

Technical Skills

Programming	Python, R, MATLAB, SAS, SQL, HTML
Statistical Software	Stan, JAGS, WinBUGS (Bayesian inference); Scikit-learn (machine learning)
Developer Tools	Git/GitHub, LaTeX, VSCode, RStudio, Jupyter
Statistical Methods	MCMC (Gibbs, Metropolis-Hastings, HMC), Monte Carlo simulation, time series analysis (ARIMA, state-space models), hierarchical modeling, experimental design
Languages	English (Fluent), Mandarin Chinese (Native)

Service & Leadership

2025   **Volunteer**, *International Chinese Statistical Association (ICSA) Conference*, Storrs, CT
- Provided technical support for conference speakers and coordinated session logistics.

2019–2020   **Member & Mentor**, *Mathematical Modeling Society*, Shandong University
- Mentored junior students in mathematical modeling competitions and R programming.
- Led weekly workshops on statistical modeling and data analysis.

2021   **Volunteer Guide**, *Shandong Museum*, Jinan, China
- Guided visitors and provided educational support for museum collections.

Awards & Honors

2022   Outstanding Graduate, Shandong University (Top 10%)

References

Available upon request