Chaoan Li

Ph.D. Student in Data Science, Texas A&M University
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Objective

Seeking a Summer 2026 internship in Data Science or Quantitative Research where I can apply my strong mathematical background, research skills, and proficiency in Python/R for solving real-world data problems.

Education

- **Texas A&M University** — College Station, TX
  Ph.D. Student - Data Science — *Aug. 2024 – Present*
- **Beijing Normal University** — Beijing, China
  M.S. - Pure Mathematics; GPA: 3.5/4 — *Sep. 2021 – Jul. 2024*
- **Univ. of Science and Technology Beijing** — Beijing, China
  B.S. - Mathematics and Applied Mathematics; GPA: 3.94/4 — *Sep. 2017 – Jul. 2021*
- **Univ. of Science and Technology Beijing** — Beijing, China
  Second Major - Financial Engineering; GPA: 3.89/4 — *Sep. 2018 – Jul. 2021*

Publications

- C. Li, X. Yan and D. Yang, *Anisotropic ball Campanato-type function spaces and their applications*, Anal. Math. Phys. 13 (2023), Paper No. 50, 71 pp.
- C. Li, X. Yan and D. Yang, *Fourier transform of anisotropic Hardy spaces and applications to Hardy–Littlewood inequalities*, Acta Math. Appl. Sin. Engl. Ser (2024), doi:10.1007/s10255-024-1124-5.

Projects

- **Local-Validation: Model-free Validation Tool** — Python, Simulation, Visualization
  github.com/ChaoanLi/local-validation — *2024*
  - **Purpose**: Developed a flexible validation tool for statistical functionals using kernel ridge regression.
  - **Contribution**: Designed simulation pipelines to evaluate estimation accuracy under various sampling designs.
  - **Application**: Useful for validating model performance in situations where standard assumptions may not hold.
  - **Tech Stack**: Python, numpy, scipy, matplotlib.
- **E-value Inference Toolbox** — R, Statistical Inference, Package Development
  github.com/ChaoanLi/E-value — *2024*
  - **Purpose**: Implemented a general R framework for performing e-value based multiple hypothesis testing.
  - **Contribution**: Designed functions for constructing e-processes, computing test statistics, and validating error control.
  - **Tech Stack**: R, ggplot2, base plotting, custom S3 methods.

Honors & Awards

- 1st Prize Academic Scholarship, Beijing Normal University (2023)
- 2nd Prize of Mathematical Contest in Modeling, Beijing (2020)
- Outstanding Graduate, USTB (2021)

Teaching Experience

- Teaching Assistant, Functional Analysis – Led weekly discussions for 140+ undergraduates, Beijing Normal University (2022)

Academic Engagements

- Participated in 2023 Beijing Harmonic Analysis conferences and assisted organizing sessions.

Skills

- **Programming:** Python (NumPy, pandas, matplotlib, scikit-learn), R (ggplot2, dplyr), SQL, MATLAB, LaTeX
- **Concepts:** Statistics, Machine Learning, Optimization, Time Series, Multiple Testing, E-values
- **Tools:** Git, VSCode, Jupyter Notebook, Overleaf