Su Jiaji

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EDUCATION

JAN 2024	**National University of Singapore**, Singapore DOCTOR OF PHILOSOPHY IN STATISTICS. ADVISOR: Dr. YAO Zhigang
JUN 2018	**Zhejiang University**, Hangzhou, Zhejiang, China BACHELOR OF NATURAL SCIENCE IN STATISTICS GPA: 3.70 / 4.0

WORKING

OCT 2023 – NOW	*Research Fellow* Department of Statistics & Data Science National University of Singapore	Advisor: Dr. YAO Zhigang
AUG 2022 – OCT 2023	*Student Research Assistant* Department of Statistics & Data Science National University of Singapore	Advisor: Dr. YAO Zhigang

ONGOING PROJECTS

SINCE JAN 2024	*Principal decomposition with nested submanifolds* Joint work with Dr. YAO Zhigang. This project aims to extend the principles of Principal Component Analysis (PCA) into a nonlinear context. The primary objective is to fit a series of principal submanifolds, each with progressively lower dimensions, to effectively capture the majority of the variation within a sample data cloud. This approach allows for a more nuanced understanding of complex, nonlinear data structures compared to traditional methods.
SINCE JAN 2024	*Low-dimension structure analysis based on UK Biobank* Joint work with Dr. YAO Zhigang & Dr. LI Bingjie. This project aims to apply our manifold-fitting-based method to a real-world health dataset, with the objective of discovering new low-dimensional structure patterns in the population data.

PREPRINTS & PUBLICATIONS

Yao, Z., Su, J., & Yau, S.-T. (2024). Manifold fitting with cyclegan. *Proceedings of the National Academy of Sciences, 121*(5), e2311436121.

Su, J., Yao, Z., Li, C., & Zhang, Y. (2023). A statistical approach to estimating adsorption-isotherm parameters in gradient-elution preparative liquid chromatography. *The Annals of Applied Statistics, 17*(4), 3476–3499.

Yao, Z., Su, J., Li, B., & Yau, S.-T. (2023). Manifold fitting. *arXiv preprint arXiv:2304.07680*.

Talks & Presentations

Oct. 2024	Institute for Mathematical Sciences, Singapore
Jun. 2024	Shanghai Institute for Mathematics and Interdisciplinary Sciences, China
Jul. 2023	School of Mathematics and Statistics, Beijing Institute of Technology, China

Visiting

Jun – Jul, 2024	*Visiting Researcher* Shanghai Institute for Mathematics and Interdisciplinary Sciences, China

Honors & Awards

Aug 2018	NUS Research Scholarships, NUS
Dec 2015	Second-class Scholarship for Outstanding Students, ZJU

Teaching

Teaching assistant at National University of Singapore:

21-22 SS	ST2334 DSA1101 ST2137
21-22 FW	ST5213 DSA1101
20-21 SS	ST2334 ST3232
20-21 FW	ST2334 ST5225
19-20 SS	ST2131 ST3239
19-20 FW	ST4231
18-19 SS	ST2131