

SU Jiaji

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EDUCATION

JAN 2024	PhD. National University of Singapore , Singapore Department of Statistics & Data Science ADVISOR: Dr. YAO Zhigang
JUN 2018	Bachelor of Natural Science, Zhejiang University , Hangzhou, China Major: STATISTICS GPA: 3.70 / 4.0

WORKING

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

ONGOING PROJECTS

SINCE JAN 2024	<i>Principal decomposition with nested submanifolds</i> 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	<i>Low-dimension structure analysis based on UK Biobank</i> 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

JULY 2023	School of Mathematics and Statistics, Beijing Institute of Technology, China
JUNE 2024	Shanghai Institute for Mathematics and Interdisciplinary Sciences, China

VISITING

JUN – JUL, 2024	<i>Visiting Researcher</i> Shanghai Institute for Mathematics and Interdisciplinary Sciences, China
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TEACHING

Teaching assistant at National University of Singapore:

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

HONORS & AWARDS

AUG 2018	NUS Research Scholarships, NUS
DEC 2015	Second-class Scholarship for Outstanding Students, ZJU