Zhang Yifan (Jenny)

The University of Hong Kong
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Education

Ph.D. in Psychometrics *2022 - 2026(expected)*
Faculty of Education *The University of Hong Kong*
Thesis topic: Bayesian Regularized SEM

M.Sc. in Data Science *2020 - 2022*
Department of Statistics & Department of Computer Science *The University of Hong Kong*
Capstone project: Statistical Inference for Tensor Data

B.Sc. in Information and Computation Science *2016 - 2020*
Department of Mathematics *Northeastern University, China*
Thesis: Analysis of Breast Cancer Prediction Based on Neural Network

Publications

Chen, J., & **Zhang, Y.** (2024). Research Design and Model Estimation Under the Partially Confirmatory Latent Variable Modeling Framework with Multi-Univariate Bayesian Lassos. *Structural Equation Modeling: A Multidisciplinary Journal*, 1–15. [doi]

Zhang, Y., & Chen, J. (2024). Accommodating and Extending Various Models for Special Effects Within the Generalized Partially Confirmatory Factor Analysis Framework. *Applied Psychological Measurement*, 48(4-5), 208-229. [doi]

Presentations

Yifan Zhang & Jinsong Chen (2023, March). Accommodating and extending various models for special effects within the generalized partially confirmatory factor analysis framework. Presented at the National Council on Measurement in Education (NCME), Chicago, IL. Virtual Presentation.

Yifan Zhang & Jinsong Chen (2023, March). Improving recommender system with the partially confirmatory approach and psychological factors. Presented at the National Council on Measurement in Education (NCME), Chicago, IL. Virtual Presentation.

Awards

Honorable Mention, COMAP(MCM) *2019*

2nd Prize, China Undergraduate Mathematical Contest in Modeling *2018*

1st Prize, NEU Mathematical Modeling Contest for College Students *2018*

Successful Participant, COMAP(MCM) *2018*

3rd Prize, China Undergraduate Mathematical Contest in Modeling *2017*

3rd Prize, NEU Mathematical Modeling Contest for College Students *2017*

Academic Scholarship, Northeastern University *2017/2018/2019*

Research Project

Statistical Inference for Tensor Data *2021*
Capstone project *Hong Kong, China*

- Researched spatiotemporal sequence prediction using models such as SRVP, ConvLSTM, ConvTTLSTM, Deep RNN and PredRNN
- Conducted performance comparisons on the KTH dataset, focusing on metrics like PSNR, SSIM, and LPIPS, as well as efficiency and accuracy.

Breast Cancer Prediction Based on Neural Network *2020*
Undergraduate thesis *Shenyang, China*

- Conducted research on genetic diagnosis of breast cancer using the GEO database, analyzing 48 breast tissue samples with over 27,000 genes.
- Preprocessed genetic data by identifying outliers and reducing dimensions through signal-to-noise ratio calculations.
- Developed a predictive classification neural network (SDAE-LM-LVQ), achieving a classification accuracy of 75%, outperforming traditional models (SDAE and LVQ).

Artificial intelligence training camp - machine learning *2019*
Summer Camp *Shenyang, China*

- Image Classification using deep learning.
- Used Python to construct convolutional neural network

Athletic Games Information Administration System *2018*
Summer Camp *Shenyang, China*

- Used My Eclipese to design the website and realized basic functions of the interface.
- Applied SQL to design database and matched the relavant functions of the website.

Working Experience

The University of Hong Kong *January - June, 2024*
RPG student coordinator *Hong Kong, China*

- Serve as student representatives to the Organizing Committee of the Research Postgraduate Conference
- Organize and support academic and social activities for MPhil/PhD/EdD students

The University of Hong Kong *June - August, 2022*
Research Assistant I *Hong Kong, China*

- Enhance research methodology and psychometrics with learning-based latent variable modeling
- Methodological developments to advance educational and psychological measurement with Bayesian learning

The University of Hong Kong *June - August, 2021*
Research Assistant II *Hong Kong, China*

- Prepare course materials for structural equation modeling
- Convert code and text materials using Rmarkdown

Biden Consulting Company *March - November, 2019*
Campus Representative *Shenyang, China*

- Took the duties of brand and product promotion within campus.
- Planned and organized lectures and public welfare activities.
- Administrated operate alumni association.
- Campus excellent professional manager, ranked 4/100.

Manulife Financial Centre *February, 2019*
Asset Management Intern *Hong Kong, China*

- Analyzed the Asian market and the development trend for asset planning products.
- Tracked the dynamic state of financial service industry and its market, collected and collated information from multiple sources, wrote complete business proposal to support evidence for decision-making.
- Packed the funds, by different years, conducted real situational simulation, and made portfolio analysis as reference for corporate assets department.
- Best Team Award of The 2019 Manulife GP programme.

Teaching

Structural Equation Modeling I *Spring Semester, 2024*
Teaching Assistant *HKU*

Quantitative Research Methods II *Spring Semester, 2024*
Teaching Assistant *HKU*

Statistical and Psychometric Analysis with R *Fall Semester, 2023*
Teaching Assistant *HKU*

Factor Analysis *Fall Semester, 2023*
Teaching Assistant *HKU*

Introduction to factor analysis and structural equation modeling *Spring Semester, 2023*
Teaching Assistant *HKU*

Introduction to statistical methods *Fall Semester, 2022*
Teaching Assistant *HKU*

Methods of research and enquiry *Spring Semester, 2022*
Teaching Assistant *HKU*

Technical skills

Programming Languages/Tools Python, R, C++, Matlab, Mplus, SPSS, HTML, LaTeX, RMarkdown

Language proficiencies

Mandarin Native
English Fluent