FEI YANG

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RESEARCH INTERESTS

High-dimensional Statistics, Variable Selection, Nonparametric Statistics, Simultaneous Tolerance Interval

EDUCATION

The University of Manchester, Manchester, United Kingdom
Ph.D. Candidate in Statistics, Department of Mathematics — Anticipated Sept. 2027

Beihang University, Beijing, China
Master of Science in Statistics, GPA 3.65 /4.0, Major GPA: 3.74/4.0 — Jun. 2023
Bachelor of Engineering in Mechanical Engineering Design, Major GPA: 3.69/4.0 — Jun. 2020
· Graduated with First Class Honors (top 4%)

Israel Institute of Technology, Haifa, Israel
Visiting Student, Faculty of Electrical & Computer Engineering — Aug. 2019

Fuwai Hospital, State Key Laboratory of Cardiovascular Disease, Beijing, China
Visiting Student, Department of Epidemiology — Feb. 2022

PUBLICATIONS

Zhichao Wang, Shanshan Wang, Fei Yang & Xiaokang Wang.(2022).Robust optimal reconciliation for hierarchical time series forecasting with M-estimation. *International Journal of Forecasting.* (Under Review)

- We incorporate the M estimation to obtain the reconciled forecasts by minimizing a robust loss function of transforming a group of base forecasts subject to the aggregation constraints. The related minimization procedure is developed and implemented through a modified Newton-Raphson algorithm via local quadratic approximation.
- Responsible for real data analysis (Section 4), including independently coding, computation with high-performance computing platforms, visualizing the results, and writing the initial draft.

Fei Yang & Shanshan Wang.(2023). Feature screening for high-dimensional generalized additive model with application. *Statistica Sinica.* (Submitted)

- Developed a new type of variable selection framework for high-dimensional additive models with five methods. The approaches combined ideas from sparse additive models(SpAM),penalized additive model(penGAM) and the recent work in 3 types of coefficients of correlationto relax the smoothness assumption of the smooth functions.
- This framework is capable of capture nonlinear signals and oscillatory trajectory regardless of the distribution of the response. It is shown to enjoy the sure screening property. Extensive simulation studies and real-data analysis demonstrate its effectiveness.

RESEARCH EXPERIENCES

Ensemble Learning for Early Sepsis Prediction from Clinical Data — **Beihang University**— Sept 2022

- Independently proposed an ensemble framework of XGBoost, Decision Tree to detect the presence of Sepsis using multi-source data, which surpassed traditional scoring systems by 4 hours.

Cardiovascular Risk Factors Prediction — **Fuwai Hospital**— Feb. 2022
Predicting lifetime risk for developing atherosclerotic cardiovascular disease in Chinese population

- Compared proteomics-enabled ML algorithms with classical and clinical risk prediction methods for all-cause mortality in cohorts of patients with cardiovascular risk factors.

Data Mining in Learning Analytics — **Carnegie Mellon University**— Aug. 2021

- Conducted statistical tests for computational models of human learning and performed Bayesian knowledge tracing to increase domain understanding.
- Presented work at a poster session in the LearnLab Summer School at CMU.

SELECTED HONORS & AWARDS

China Scholarship Council-The University of Manchester (CSC-UoM) Joint Scholarship	Jun. 2023
Outstanding Graduates —Beihang University	2020, 2023
Academic Scholarship —Beihang University	2018-2021
Graduate Scholarship —Beihang University	Aug. 2020
Merit Student, Excellent Student Cadre(Top 4%) —Beihang University	2017,2018,2019
National Patent(First Inventor)	Aug. 2019
Vice President— Beihang University Student Council, Department of Design	2017-2018
Class President—School of Mechanical Engineering & Automation,Beihang University	2017-2019

RESEARCH AFFILIATIONS

Student Member of The Econometric Society	
Participant in International Workshop on Complex Functional Data Analysis	Jun. 2022

TEACHING ASSISTANTSHIPS

Statistics I Teaching Assistant
The University of Manchester, Department of Mathematics   Spring 2024

Non-parametric Statistics Teaching Assistant
Beihang University, Department of Economics and Management   Spring 2022

COURSE HIGHLIGHTS

High-dimensional Data Analysis | Statistical Computing | Deep Learning | Compressed Sensing |Time Series Analysis| Statistical learning theory | Multivariate Statistical Analysis | Calculus | Linear Algebra | Probability Theory | Matrix Theory | Social Network Analysis |Generalized Linear Model|Convex Optimization and Approximation | Pattern Recognition and Image Processing| Microeconomics |

INDUSTRY INTERNSHIPS

Tencent Data Analyst Intern   Jun. 2021 - Dec. 2021
CSIG Department | Tencent Automotive Intelligence Team

BMW China Automotive Trading Ltd. Database Engineer Intern   Jan. 2021 - May 2021
E-Mobility Department | Intelligence & Steering Team

Xiaomi Technology Co., Ltd AI Product Intern   May 2020 - Nov. 2020
Artificial Intelligence Department | Xiaoai Team

SKILLS

Languages	TOEFL 106 (**Best Score:111** R:29 L:30 S:25 W:27) **GRE 323** (V:154 Q:169 AW:3.5)
Programming	C, Python, R, MATLAB, VBA, JavaScript, HTML + CSS + JavaScript, SQL, LaTeX. Qualification Certificate of Proficiency in Database System Engineer