FEI YANG

+(86) 158-1152-2686 ◇ Beijing, China
feiyang21@buaa.edu.cn ◇ feiyang@andrew.cmu.edu ◇ https://fannyyang73.github.io/

RESEARCH INTERSTS

High-dimensional Statistics, Variable Selection, Robust Regression Estimation, Nonparametric Statistics

EDUCATION

Beihang University, Beijing, China
Master of Economics in Statistics, GPA 3.61 /4.0 — Anticipated Jun. 2023
Bachelor of Engineering in Mechanical Engineering Design, Major GPA: 3.7/4.0 — 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

Robust optimal reconciliation for hierarchical time series forecasting with M-estimation

- **International Journal of Forecasting** under review
- We incorporate M-estimation to obtain the reconciled forecasts via minimizing a robust loss function of transforming a group of base forecasts subject to the aggregation constraints. Related minimization procedure is developed and implemented through a modified Newton- Raphson algorithm via local quadratic approximation.

Master's thesis: Feature screening for high-dimensional generalized additive model with application

- We develop a new type of variable selection framework for high-dimensional additive models with five methods. Our approaches combine ideas from sparse additive models(SpAM),penalized additive model(penGAM) and the recent work in 3 types of coefficients of correlation.
- 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

NSF Funded Project in Variable Selection Methods — **Beihang University**— Sept 2020
Ultra-high-dimensional statistics modeling and statistical inference theory, methods and applications

- Real data analysis: Selected CSI 300 index stocks data as backtesting samples, used traditional volume and price strategies to build a 6-layer DNN model;
- Compared the performance in model fitting and daily returns with the full model before variable screening, validating the application potential in our screening methods.

Data Mining in Learning Analytics — **Carnegie Mellon University**— Aug. 2021
Moving beyond Test Scores: Analyzing the Effectiveness of a Digital Learning Game through Learning Analytic

- Participated in a research team in CMU Learn Lab and analyzed computational models of human learning.
- Conducted statistical tests and executed Bayesian knowledge tracing to increase domain understanding.

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.

Phoneme Recognition & Classification **Technion**— Aug. 2019
Summer research project in Israel Institute of Technology

- Used Matlab to classify phonemes from TIMIT database with 3 types of classifiers(KNN, Naive Bayes Classifier, the perceptron algorithm)
- Improved the accuracy of the KNN classifier by 3% using different sample weights and correlation distance to replace the original Euclidean distance.

SELECTED HONORS & AWARDS

Chinese Government Scholarship —CSC Aug. 2019
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

Nonparametric Statistics(22 spring) 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. Intern Jan. 2021 - May. 2021
E-Mobility Department | Intelligence & Steering Team

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

SKILLS

Languages TOEFL in 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

Frameworks Numpy, Pandas,Scikit-learn, PyTorch,Jupyter