Yizhi Hao

Beijing Foreign Studies University
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Education

Beijing Foreign Studies University (BFSU), International Business School Beijing, China

Bachelor of Management in Information Systems and Information Management Sept. 2019 – July. 2023

- Member of the Honors Program - BFSU Multilingual Inter-disciplinary Talent Program (French oriented)
- GPA: 3.93/4.0
- Academic Ranking: 1/20
- Coursework: Advanced Mathematics (97, 96), Probability Theory / Statistics (95, 99), Operations Research (95), Python (95, 99), C (90), Database (93), Micro/Macroeconomics (94, 98), Management (96), Management Information Systems (92), System Analysis and Design (94), Operations Management (98), Intro to Data Mining & Machine Learning (94)

Research Experience

Beijing Foreign Studies University Global Index 2021 – Global Intelligence Innovation Index

Research Assistant Oct. 2020 – Present

Headed by Prof. Xiaoyu Ma (Associate Professor, BFSU) and Dr. Xiao Li (lecturer, BFSU)

- **[R, Data Imputation]** Compared the performance of multiple imputation algorithms including mean, median, K-nearest neighbors, and Missforest imputation using VIM and Missforest package.
- **[Python, Machine Learning] Implemented** Trained K-means and Random Forest model using the Scikit-learn module to yield impurity-based feature importance as weights of the index.
- **[Article Writing, Python, Data Visualization]** Completed the methodology, analysis and result part of the research article. Visualized model results using Matplotlib and Seaborn.

Voucher or Cash – Empirical Study Based on International Samples

Research Assistant Apr. 2021 – Present

Headed by Dr. Sa Sun (lecturer, BFSU)

- **[R, Data Imputation]** Implemented K-nearest neighbors imputation algorithm using VIM package.
- **[Python, Machine Learning]** Trained Random Forest model using the Scikit-learn module to yield impurity-based feature importance, and compare it with the results of econometric analysis.

How Industrial Internet Enables Supply Chain Resilience

Research Assistant Mar. 2021 – Present

Headed by Prof. Zhou He (Associate Professor, University of Chinese Academy of Sciences, UCAS), Prof. Mengxi Yang (Associate Professor, UCAS), and Prof. Xiaoyu Ma (Associate Professor, BFSU)

- **[Literature Review]** Retrieved relevant papers to summarize the factors influencing supply chain resilience.
- **[Mplus, Structural Equation Modeling]** Constructed moderated mediation models to test the hypotheses. Performed reliability and validity analysis using SPSS, Mplus, and Lavaan package from R. Used MplusAutomation package from R and Python to fit, summarize and compare model results automatically.
- **[Article Writing]** Completed the analysis and result part of the research article.

Supply Chain Resilience Management and Optimization Using Agent-Based Modeling

Undergraduate Researcher, Project leader Mar. 2021 – Present

National Undergraduate Innovation Training Program (provincial level)

Advisor: Prof. Zhou He (Associate Professor, UCAS) and Prof. Xiaoyu Ma (Associate Professor, BFSU)

- **[Python, Modeling & Simulation]** Designed an agent-based model to simulate push-type supply chain networks, including its structure, agent attributes and behaviors, and execution sequence of the model.

Work Experience

Lenovo, Solution & Service Group Beijing, China

Data Analyst Intern Jul. 2022 – Oct. 2022

- **[Python, C, Optimization, Document Writing]** Assisted in the development of MARS (multi-period, multi-priority forecasting system for chipset inventory), which used multi-objective linear programming models with GLPK solver in Cvxpy module to calculate chipsets shortages. Performed code review and system testing. Wrote project document.
- **[Python, Optimization]** Developed the demo of the Surface Mount Technology Optimization system (planning system for PCBA assembly). Constructed multi-objective mixed-integer programming models using GLPK solver in the Cvxpy module to optimize the number of PCB panels produced. Coded the demo (Cvxpy, GLPK). Presented solutions.
- **[Python, Optimization]** Developed the demo of the Advanced Planning System (planning system for production scheduling). Modeled the problem into a multi-objective mixed-integer programming model, similar to the vehicle routing problem and parallel machine scheduling problem. Implemented genetic algorithm using Geatpy module.
- **[Confluence, Document Writing]** Maintained documents on the Confluence platform. Wrote knowledge-share documents and hosted a knowledge-share event about Python.

Beijing Daxing International Airport Terminal, Administration Dept. Beijing, China

Data Analyst Intern Oct. 2022 – Present

- **[Python, Machine Learning]** Assisted in the development of the system for predicting passenger check-in time. Preprocessed data. Trained classification model. Tuned hyper-parameters. Compared model performance.

Publications

(Under Review) Xiaoyu Ma, **Yizhi Hao**, Xiao Li, Jun Liu, Jiasen Qi (2022), Evaluating Global Intelligence Innovation: An Index Based on Machine Learning Methods. *Technological Forecasting and Social Change*, Under Review.

(In preparation) Mengxi Yang, Zhou He, **Yizhi Hao**, Xiaoyu Ma (2022), The Impact of Industrial Internet on Supply Chain Resilience: A Resourced-Based View.

Awards

Beijing Foreign Studies University First-class Scholarship Dec.2020

Beijing Foreign Studies University

Beijing Foreign Studies University Student Merit Award Dec.2020

Beijing Foreign Studies University

Beijing Foreign Studies University First-class Scholarship Dec.2021

Beijing Foreign Studies University

Beijing Foreign Studies University Student Merit Award Dec.2021

Beijing Foreign Studies University

China Youth Cup National Mathematical Contest in Modeling, Undergraduate Group, Second Prize

Team Leader May.2022

The committee of the China Youth Cup National Mathematical Contest in Modeling, Jilin Provincial Society of Education, Shandong BeiDou Institute of Education

- **[Python]** Implemented Leslie Matrix Model to predict the demographic trends in China over the coming decade and assessed the effect of China's Three-child policy. Analyzed the relationship between parental pressure and fertility preference using the regression model and the data from the China Family Panel Studies (CFPS). Assessed the impact of the "double reduction" policy (reducing the academic burden of compulsory education students).

Beijing Foreign Studies University Second-class Scholarship Dec.2022

Beijing Foreign Studies University

Beijing Foreign Studies University Student Merit Award Dec.2022

Beijing Foreign Studies University

Activities and Service

Academic Department, BFSU International Business School Student Union Beijing, China

Member Sept. 2019 – Aug. 2020

One-on-one Tutoring Program, China-Dolls Center for Rare Disorders Beijing, China

Volunteer, Tutor Mar. 2021 – Jun. 2021

One-on-one Tutoring Program, Education Aid Program in Mabian Yi Autonomous County Beijing, China

Volunteer, Tutor Mar. 2022 – Jun. 2022

Skills

Programming and Software: Python, R, C, SQL, SPSS, Mplus, Latex, MS office

English (fluent): GRE 327, IELTS 8 (all subsections above 7), CET-4 634, CET-6 631, TEM-4 83 (Excellent)

French (beginner): Basic reading, writing, and oral skills.

References

Xiaoyu Ma, Associate Professor, Director of the Center for Faculty Development (Research Supervisor, Personal Advisor from the Honors Program)
Beijing Foreign Studies University, Beijing, China
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Prof. Zhou He, Associate Professor (Research Supervisor)
University of Chinese Academy of Sciences, Beijing, China
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Jun Yan, Supply Chain IT Director
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