YIZHI (ETHAN) HAO

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EDUCATION

Cornell Tech (Cornell University), New York, NY   May 2025
Jacobs Technion-Cornell Dual Master of Science Degrees – Urban Tech Concentration | GPA: N/A | Merit Scholarship
Relevant Coursework: Algorithms and Data Structures, Applied Machine Learning, Applied Data Science, Optimization Methods

Beijing Foreign Studies University, Beijing, China   Jun 2023
Bachelor of Management in Information Systems and Information Management | GPA: 3.93 | summa cum laude
Honors/Awards: Beijing Municipal Outstanding Graduate (Top 5%), Beijing Municipal Outstanding Thesis (**Top 0.5%**)

TECHNICAL SKILLS

Coding Languages/Software:	Python, SQL, R, C, JSON, YAML, SPSS, Mplus, Stata, Minitab, GLPK
Libraries:	Pandas, NumPy, Sklearn, Networkx, Scipy, Matplotlib, SQLAlchemy, Selenium, BeautifulSoup, Cvxpy
Databases/Other Tools:	MySQL, SQLite, Git, LaTeX

EXPERIENCE

Beijing Daxing International Airport Terminal, Administration Dept., Data Analyst Intern, Beijing, China   Oct 2022- Jun 2023
- Designed a **queueing theory**-based system to forecast passenger check-in wait time and facilitate terminal capacity management.
- Implemented **multiprocessing** to speed up the integration of the **KDE** curve 4x during queue length estimation.
- Developed and deployed backend algorithms using **Python/MySQL**, achieving real-time estimation every 10 minutes and overnight forecast of backlog status, covering 194 counters, 12,000+ outgoing flights, and 165,000+ passengers per month.

Lenovo, Solution & Service Group, Data Analyst Intern, Beijing, China   Jul 2022- Oct 2022
- Reviewed code, maintained Confluence document, and conducted testing of MARS (chipset inventory forecasting using **Python/Cvxpy/GLPK**), fixing bugs in LP constraints, and streamlining constraint matrix to reduce solution time by 40%.
- Used **Python/Cvxpy/GLPK** to develop Surface Mount Technology Optimization system demo (PCBA assembly planning).
- Implemented **genetic algorithm** using **Python/Geatpy** for Advanced Planning System demo. Modeled production scheduling problem into vehicle routing problem, solved by multi-objective mixed integer programming.

PROJECTS

The Study of Industrial Internet Supply Chain Risk Based on Agent-Based Modeling and Simulation, (Python, SQL)   Fall 2023
Research implementing **ABMS** method to identify high-risk nodes in SCs, using **Taguchi** method to study factors affecting SC resilience.
- Utilizing **Agentpy and Networkx** to construct Python modules simulating the firm's behaviors during SC disruption.
- Created a **parallel testing** process, achieving a 24x speed increase. Improved **MySQL** schema, reducing data redundancy by 60%.

Beijing Foreign Studies University Global Index 2021 – Global Intelligence Innovation Index, (R, Python)   Spring 2023
Research utilizing ML methods to determine the weight of the composite index, GIII, leading to 1 publication in a **peer-reviewed journal**.
- Built a spider to crawl employment data from LinkedIn, decreasing data collection time by 83%.
- Trained **K-means and Random Forest** models using **Sklearn** to yield impurity-based feature importance as index weight.

The Impact of Industrial Internet on Supply Chain Resilience: a Resource-Based View, (Python, R, Mplus)   Spring 2022
Research using **structural equation models** to analyze moderating/mediating factors between industrial Internet usage and SC resilience.
- Automated hypothesis testing and reporting process with **R/Python**, reducing the time to find valid factor combinations by 40%.

E-Commerce Platform Data Analysis and Predictive Modeling (Python)   Fall 2021
Performed churn prediction, RFM analysis, and customer lifetime value analysis on an e-commerce platform sales dataset.
- Cleaned, analyzed, and visualized RFM data. Trained and validated **Logistic Regression** model (**Sklearn**) for churn prediction.
- Predicted lifetime value using **Beta-Geometric/Negative-Binomial-Distribution** model and **Gamma-Gamma** model.

Bilibili Content Creator Data Crawling and Analysis, (Python, SQL)   Spring 2020
Crawled information on a video-sharing platform, Bilibili, to analyze trending content and the social network of content creators.
- Deployed **Selenium**-based spider on **CentOS** server to crawl 155,120 user's information. Stored in **SQLite** for analysis.

PUBLICATIONS

Ma, Xiaoyu; **Hao, Yizhi**; Li, Xiao; Liu, Jun; Qi, Jiasen (2023): Evaluating global intelligence innovation: An index based on machine learning methods. In *Technological Forecasting and Social Change* 194, p. 122736. DOI: 10.1016/j.techfore.2023.122736.

He, Zhou; **Hao, Yizhi**; Ma, Xiaoyu (2023): Research on Risk Identification and Resilience Factors of Industrial Chains and Supply Chains – Taking Industrial Internet Supply Chain as An Example. In 2023 Chinese Academy of Management Annual Conference.