

# YANXUAN WU

(+86) 133 0143 8726 | wyxsjtuer@gmail.com

## EDUCATION

### Shanghai Jiao Tong University (SJTU)

Shanghai/China

B.S. in Electrical Engineering and Automation (major) and Finance (minor)

Sep 2019 – Jun 2023

- Coursework (Grade: 88/100): Linear Algebra, Calculus (I&II), Probability and Statistics, Algorithms: Logic and Structures, Machine Reasoning and Expert Systems, Intermediate Microeconomics, Corporate Finance, Management Science, Experimental Economics, etc.

### National University of Singapore (NUS)

Singapore

Summer Workshop in Deep Learning

July 2022 – Aug 2022

### University College London (UCL)

London/United Kingdoms

Exchange Student in Arts and Science

Jan 2022 – Jun 2022

## RESEARCH INTERESTS

My research interests span various interesting topics related to economics of AI and market competition, especially from the behavioral and cognitive perspective. Most recently, I work on AI in Human Resource Management, especially about the use of AI interview. My goal is to understand human behavior, innovate technology and enhance social good with the power of scientific methods including experimental design, mathematical modeling, and data analysis.

## PROJECTS

### Electricity Market (Empirical, Simulation, Modeling)

Dec 2022 – Jun 2023

(Graduate Thesis) “Strategic Bidding Behavior of Electricity Suppliers by Using Market Power” with [Donghan Feng](#) (SJTU)

- Investigated the market results in the day-ahead electricity market based on the data collected from the market operator, finding that average prices received by different suppliers were almost the same and increased by 50% from July to November when the demand maintained stable.
- Ran Mento Carlo simulation on stepwise bidding curves and programmed the optimization to clear the market, finding the price similarity was a joint effect of the market design of ‘one-bid-one-day’ and the highly correlated bidding curves at the generator, firm, and group level.
- Built a model featured with linear bidding curves to prove price similarity at the group level only depends on the interception and numerically tested that the similarity maintained high when the interception ranged from negative infinity to near the price cap.

### Corporate Social Responsibility (Empirical)

Sep 2021 – Jan 2022

“Would Personal Background Influence the Evaluation of External Environment for CSR Implementation” with [Zucheng Zhou](#) (SJTU)

- Coded data collected from 1700+ MBA students and applied multiple linear regressions to research the differences in people’s evaluation of the external environment between different departments, age groups, genders, and positions, finding that older people, females, and senior managers were significantly more positive towards the external environment than younger people, males, and junior managers.

## PROFESSIONAL EXPERIENCE

### HEC Paris

Shanghai/China(remote)

Research Assistant for [Xitong Li](#) (HEC)

April 2023 – present

- Ran simulations to compare different Multi-task Learning algorithm, revealing the influence of factors, such as correlations between tasks, observable dimensions, and noises, on the model training process (Loss, Gradient) and final prediction performance
- Incorporated GradNorm algorithm to dynamically change the weights of different tasks during the training process, achieving over 200% increase in R-square for regression task and accuracy/recall in classification task over our highly unbalanced real dataset
- Applied and compared difference topic modeling algorithms (BerTopic, LDA etc.) on millions of multimodal data (images and texts), then conducted fine-tuning, hyperparameter optimization, achieving a balanced performance on metrics (coherence, topic overlap etc.)

### MoSeeker

Shanghai/China

Data Analyst

Aug 2023 – present

- Analyzed and visualized the candidate selection results with the assistance of AI interview based on campus recruitment data, justifying the effectiveness of AI-human collaboration, and revealing possible bias from regression results.
- Developed a mapping algorithm (incorporated embedding cosine similarity and edit distance) to transform the manually input information (addresses, job position, etc.) to standard form, achieving over 95% accuracy over millions of applications and job descriptions.

### United Nations Industrial Development Organization

Shanghai/China

Investment associate intern, Investment and Technology Promotion Office Shanghai

Sep 2023 – Dec 2023

### Guo Sheng Securities

Shanghai/China

Analyst intern, Electrical Engineering and New Energy Department

Jul 2021 – Aug 2021

## HONORS & AWARDS

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- Honor Student in Shanghai Jiao Tong University (University, 2%) 2020, 2021
- Ren Yuan Electric Scholarship (University, 3/118) 2020, 2021
- 1<sup>st</sup> Honor in Fanhai Global Leadership Program (University, 1/340) 2021
- 2<sup>nd</sup> Prize in Fanhai International Collidoscope Challenge (International, 2/80) 2021
- Advanced Social Practice Individual in Shanghai Jiao Tong University (University, 1%) 2020

## ADDITIONAL INFORMATION

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- **Languages:** English (Advanced, IELTS: 8), Mandarin Chinese (Native)
- **Technical Skills:** Python, MATLAB, MySQL, Stata, C++
- **Part-Time Job:** Physics and Math teacher for AP/A-level/IG examination, IELTS teacher
- **Interests:** Travelling, Meditation, Reading, Basketball, Tennis