

# Yida Xu

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## EDUCATION

**Tianjin University** (2025 QS World University Ranking: 269) Sep 2023 -- Jun 2026 (expected)  
*Master of Management Science and Engineering* **Ranking: 13/200 (Top 7%)**

- **Relevant Courses:** Fundamentals of Management Mathematics, Intelligent Calculation Methods, System Analysis, Big Data-Driven Business Analytics

**Tianjin University** (2025 QS World University Ranking: 269) Sep 2019 -- Jun 2023  
*Bachelor of Management* **GPA: 3.66/4.0** **Ranking: 1/25 (Top 4%)**

- **Relevant Courses:** Operations Research, Advanced Mathematics, Linear Algebra, Logistics Engineering and Management, Smart Logistics and Supply Chain Management

**Short-Term High School Exchange Program, Saint Peter's University, USA** Jul 2017 -- Aug 2017

## PUBLICATIONS

(1) Mao Z, **Xu Y**, Fang K, et al. "An adaptive large neighborhood search algorithm for parallel assembly lines scheduling problem with complex fixture constraints", **Computers & Industrial Engineering**, 2024: 109900 (JCR Q1, IF=7.9)

- This study addresses a scheduling problem in the real production scenario of **Lenovo**. A mixed integer linear programming (MILP) model and an improved ALNS algorithm are proposed. Real-world data illustrate the proposed methods could solve instances with **1000+ orders in minutes**.

(2) Mao Z, **Xu Y**, Fu E. "An adaptive large neighborhood decomposition search-based approach for the location-routing problem with pickup facilities and heterogeneous demands", **Computers & Operations Research**, 2026:107398 (JCR Q1, IF=4.3)

- This study addresses the location-routing problem with self-pickup facilities and heterogeneous demands. An MILP model is proposed and an adaptive large neighborhood decomposition search algorithm is developed. The proposed algorithm achieves up to a **30% advantage** over baselines.

(3) **Xu Y**, Mo B, Zhao J. "Model inversion attack on discrete choice models", **INFORMS Journal on Computing**, under review, 2025

(4) **Xu Y**, Mao Z, "Integrated order dispatching and routing for last-mile pickup via deep reinforcement learning", **European Journal of Operational Research**, under review, 2026

- We propose an integrated framework with **deep reinforcement learning** and heuristics to solve the data-driven last-mile pickup problem, including a **spatial-temporal graph neural network** and a **dynamic residual graph attention network**. Results on the LaDe dataset demonstrate up to a **20% improvement** in solution quality over the baselines.

(5) Mao Z, Zhang J, Huang D, Sun Y, **Xu Y**, "A matheuristic approach for the multi-manned assembly line balancing problem with collaborative robots", **Computers & Operations Research**, 2025: 107322 (JCR Q1, IF=4.3)

(6) **Xu Y**, Mo B, "Real-time Driver Surge Map Design for Ride-hailing Systems", **working paper**, 2025

## RESEARCH EXPERIENCE

**MIT-UF-NU 2025 Joint Summer Research Camp, USA (Remote)** Apr 2025 – Oct 2025

- Project name: Model inversion attack on discrete choice models (Mentor: Baichuan Mo, MIT)
- Main contribution:  
Established mathematical model for model inversion attack, designed a gradient-based tailored neighborhood search algorithm for solution. Conduct numerical experiments on the Swissmetro datasets, demonstrate the effectiveness of the proposed method compared with posterior solutions.

## **Mainly Participation in ERA-Net Urban Accessibility and Connectivity Sino-European, China**

### ***Principal of the sub work package***

Jun 2022 -- Present

- Project name: Sustainable Operations in Urban Logistics (SOUL).
- Project members: Tilburg University, Tsinghua University, Kedge Business School, Sichuan University and Bordeaux Metropole.
- Main contribution:
  1. Participated in the project application and implemented Micro-storage and fulfilment for on-demand and time-sensitive urban delivery.
  2. Established mathematical model of the pickup facility location problem, verified the accuracy of the model through Gurobi, and further develop efficient heuristic algorithms for solution.

## **Provincial Undergraduate Training Program for Innovation and Entrepreneurship, China**

### ***Principal of the project***

Apr 2022 – Nov 2022

Established user portrait based on the RFM model and K-means algorithm and the generation of the user tag for segmentation. Constructed the multi-party game profit distribution model.

## **CONFERENCES & WORKSHOPS**

### **2025 INFORMS Annual Meeting, Atlanta, USA, 2025 (October 26-29)**

**Invited talk**

### **2024 CIE51, UNSW Sydney, Australia, 2024 (December 9-11)**

**Oral Presentation**

- We studied the location routing problem with alternative pickup facilities. A novel MILP is established and an efficient heuristic is developed to solve the NP-hard problem.

### **2024 INFORMS Annual Meeting, Seattle, USA, 2024 (October 20-23)**

**Oral Presentation**

- We discussed the electric vehicle scheduling and charging problem under time-of-use pricing. A tailored simulated annealing algorithm is developed and compared with commercial solvers.

### **Joint event for Sino-European projects, Hangzhou, China, 2024 (May 15-17)    Poster Presentation**

## **SCIENTIFIC COMPETITIONS**

### **The 2022 COMAP'S Mathematical Contest In Modeling (MCM), Outstanding Winner (0.16%)**

#### ***Team Leader***

May 2022

- Propose an Improved Pairs Trading Strategy (IPT) Based on Cointegration of Gold and Bitcoin. Worked on model building, sensitivity analysis and thesis writing, processed data using the Modified Dollar Neutral strategy (MDN).

### **The 6th "RIRISHUN maker training camp", National Gold Award, China**

#### ***Main Participant***

Dec 2021

- Implemented field research, established the Flexsim simulation model based on the petri net, developed a genetic algorithm for Xi'an automobile spare parts warehouse location optimization, and applied A\* algorithm for routing optimization.

## **HONORS & AWARDS**

### **Postgraduate National Scholarship**

Oct 2025

### **First-Class Academic Scholarship**

Nov 2024

### **Outstanding Graduates of Tianjin University**

Jun 2023

### **Undergraduate National Scholarship**

Sep 2022

### **“Bao Gong” Logistics Scholarship (Top 4%)**

Nov 2021

### **Merit Student of Tianjin University**

Nov 2021

## **SKILLS**

**Languages:** Chinese (Native speaker), English (IELTS Overall Band 7.5, GRE Quantitative 170/170)

**Technical Skills:** Python, Gurobi, LaTeX, Flexsim, IBM SPSS Statistics, Visio, Auto CAD, Excel