

# Jinglei Chen

Tsinghua University · Industrial Engineering · Master

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## Education

### Department of Industrial Engineering, Tsinghua University

MANAGEMENT SCIENCE & ENGINEERING

- Excellent Teaching Assistant Award (2025)

M.S.

Aug. 2024 - Jul. 2027 (Due)

### Department of Industrial Engineering, Tsinghua University

INDUSTRIAL ENGINEERING

- Outstanding B.S. Graduates of Tsinghua University for 2024 (Top 10%)
- Outstanding Comprehensive Scholarship (2021/2023), Social Practice Scholarship(2022)

B.S.

Aug. 2020 - Jul. 2024

## Work Experience

### Siemens Foundational Technologies, Big Data (Internship)

RESEARCH INTERN

- Data inference: write APIs to provide access of using the large-scale pretrained transformer-based time-series model GTT.
- Open-source Leaderboard: write wrapper functions to align current structure with gluonTS for submitting results on evaluation benchmark.
- Research: robust time-series anomaly detection method through negative log-likelihood scores under Gaussian Mixture Model prediction.

Beijing, China

Mar. 2025 - Jul. 2025

## Project Experience

### Time-Series Prediction Using End-to-end Transformer-based Surrogate Method

LITERATURE REVIEW & METHOD IMPLEMENTATION

- Propose an end-to-end surrogate model, the Stressformer, which employs input window slicing and convolutional self-attention to enhance the local semantics, to effectively improve the pattern recognition accuracy.
- Adopt sparse self-attention to effectively alleviate the memory occupation problem of complex systems using transformer framework.
- Compare with the existing stress prediction model (StressNet), the proposed Stressformer model can reduce the number of parameters to 1/10, shorten the training time from more than 24 h to less than 5 min, and reduce the demand for image data.

Beijing, China

Oct. 2023 - May. 2024

### Deployment of Large Language Model for Discipline Agent

ANNOTATION & AGENT WORKFLOW DESIGN

- Construct the IE Knowledge Mapping System, which contains 15 professional core courses covering more than 2,000 knowledge points and clarifying the prerequisites.
- Implement knowledge graph and IISEbok (body of knowledge) annotations to provide a complete retrieval framework as fine-tuning data for discipline-specific macromodels.
- Conduct up-to-date research (scholars, labs, companies, etc.) in AI Agent workflow for OR problem formulation.
- Synergise with Rain Classroom AI (Zhipu) for corresponding between lecture content, relevant reference documents and knowledge points.

Beijing, China

Nov. 2024 - Mar. 2025

### Aircraft Production Line Capacity Analysis and Resource Allocation Optimization

SIMULATION MODEL CONSTRUCTION

- Clarify the capacity process, status and bottlenecks based on the actual production scenarios.
- Build an anylogic production line simulation model to assist capacity analysis and calculation.
- Write technical description documents for bidding.

Chengdu, China

Jan. 2025 - Mar. 2025

### Tsinghua University Career Development Center "Alumni Mentorship Program" Optimization Consulting Project

ASSISTANT CONSULTANT & OPERATING VOLUNTEER

- Conduct in-depth mission, vision, & value analysis; Clarify the index system for evaluations and the needs of stakeholders; Carry out reform solutions with the goal of better serving students, alumni, and the university.
- Sort out project-related activities and analyze system operation status, so as to determine the direction of system design optimization.
- Propose requirements for optimized product and cooperate with the technical department on the basis of information security.

Beijing, China

Jun. 2024 - Jul. 2024

## Publications

**Special Session Paper**, J. Chen, Y. Ai, and X. Yue, 'Reconceptualizing Active Learning: A Refined Framework

Aug. 2025 for Methods, Frontiers, and Applications,' in *Proceedings of IEEE 21st International Conference on Automation Science and Engineering* Los Angeles, U.S.A