

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)

Beijing, China

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.

Mar. 2025 - Jul. 2025

Project Experience

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

Beijing, China

LITERATURE REVIEW & METHOD IMPLEMENTATION

Oct. 2023 - May. 2024

- 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.

Deployment of Large Language Model for Discipline Agent

Beijing, China

ANNOTATION & AGENT WORKFLOW DESIGN

Nov. 2024 - Mar. 2025

- 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 IIEebok (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.

Aircraft Production Line Capacity Analysis and Resource Allocation Optimization

Chengdu, China

SIMULATION MODEL CONSTRUCTION

Jan. 2025 - Mar. 2025

- 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.

Tsinghua University Career Development Center “Alumni Mentorship Program” Optimization Consulting Project

Beijing, China

ASSISTANT CONSULTANT & OPERATING VOLUNTEER

Jun. 2024 - Jul. 2024

- 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.

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