

Haonan Wen

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Research Interests

Time Series Forecasting, Test-Time Adaptation, LLM Agents

Education

Beijing Jiaotong University

M.E. in Computer Technology

Beijing, China

Sep. 2024 - Jun. 2027 (expected)

- **Advisor:** Songhe Feng
- **GPA:** 3.69/4.00 (Top 10%)

Beijing Jiaotong University

B.Eng. in Computer Science and Technology

Beijing, China

Sep. 2019 - Jun. 2023

Publications and Preprints

- **Online Irregular Multivariate Time Series Forecasting via Uncertainty-Driven Dual-Expert Calibration**
Haonan Wen, Hanyang Chen, Songhe Feng
The 32nd SIGKDD Conference on Knowledge Discovery and Data Mining, 2026.
- **Beyond English: Uncovering the Multilingual Gap in Vision-Language-Action Models**
Hanyang Chen, Hongliang Li, Jiarui Cao, Yang Li, Yang Jiang, **Haonan Wen**, Kaiyu Huang, Shengnan Guo, Huaiyu Wan
arXiv:2606.15714, 2026.

Research Experience

Threat Assessment Agent for Attack Analysis

Jun. 2026 - Present

Project Member, Intern at Huawei 2012 Lab

- Developed specialized skills for reconstructing attack paths from unknown files and integrated them into a threat assessment agent.
- Built the agent framework based on DeepAgents, exploring mechanisms including virtual file systems, task planning, subagent delegation, and memory.

Supervised Weather Grid-point Selection for Power Load Forecasting

May. 2026 - Jun. 2026

Project Member, Intern at TsingRoc Intelligence

- Worked on a short-term power load forecasting project that incorporated weather prediction data as exogenous factors.
- Analyzed raw grid-level meteorological fields and identified redundant and noisy spatial points that degraded forecasting performance.
- Contributed to the implementation of a supervised multi-head weather point selection module to select load-relevant points and integrate them into a DLinear + similar-day forecasting framework.
- Organized experimental code and findings into skills, effectively improving experiment reproducibility and facilitating knowledge sharing for the team.

Online Irregular Time Series Forecasting with Uncertainty Estimation

Sep. 2025 - Feb. 2026

Project Leader, Advisor: Prof. Songhe Feng

- Instead of relying on temporal continuity, we used uncertainty estimation as a signal to detect distribution shifts and guide online adaptation decisions.
- We introduced a dual-expert calibration module to separate reliable and unreliable samples, enabling stable adaptation while avoiding interference from high-uncertainty data.
- Achieved efficient, model-agnostic online adaptation by freezing the original forecaster and updating only lightweight calibration modules.

Cross-modal Urban Rail Transit Forecasting

Dec. 2024 - Jun. 2025

Project Member, Institute of Automation, CAS, Advisor: Prof. Bing Li and Prof. Songhe Feng

- Studied urban rail passenger-flow forecasting under heterogeneous transportation environments, where traffic dynamics are influenced by temporal patterns and external factors such as holidays, flights, and special events.
- Built a PatchTST-based Mixture-of-Experts forecasting framework with exogenous-information-driven routing and specialized experts to model diverse traffic patterns.
- Achieved less than 15% MAPE in real-world deployment, demonstrating robust forecasting performance under complex operating conditions.

Railway Passenger Flow Forecasting

Oct. 2024 - Mar. 2025

Project Member, Institute of Automation, CAS, Advisor: Prof. Bing Li and Prof. Songhe Feng

- Studied long-horizon railway passenger-flow forecasting under strong temporal periodicity and demand fluctuations.
- Conducted a comprehensive benchmark of Transformer-, Mamba-, and foundation-model-based forecasting methods for railway passenger flow prediction.
- Designed a multi-scale forecasting framework by integrating STL decomposition, achieving forecasting errors below 10% for multi-day railway passenger-flow prediction.

Internship

Huawei 2012 Lab, AI Algorithm Intern

Jun. 2026 - Present

TsingRoc Intelligence, Algorithm Intern

May. 2026 - Jun. 2026

Competitions

• China Collegiate Computer Design Competition

Jun. 2022

Team Member, Provincial 3rd Prize

Awards and Scholarships

- The First Prize Academic Scholarship, Beijing Jiaotong University, 2025
- Outstanding Student Leader of Beijing Jiaotong University, Beijing Jiaotong University, 2021,2022

Skills

Programming	Python (numpy, pandas, matplotlib, pytorch), Java
Languages	Chinese (native), English
Software	Latex, Markdown, Notion, Excel