Junjie Chen

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Authorized to work in the UK

Summary

Applied scientist. I build ML systems and evaluate them against human judgement. Readers rated my comic translation system on par with professional translations. My cardiac monitoring algorithm met Marley Health's accuracy requirement. Now working on cost reduction. Work spans machine translation, signal processing, and computational linguistics. Postdoc at the University of Oxford. Former Amazon Science Fellow.

Experience

University of Oxford May 2026 – Present
Postdoctoral Researcher *Oxford, United Kingdom*

- Built an agentic comic translation system that translates all on-page text, including drawn-in onomatopoeia and stylised text; in blinded human evaluation, readers rated it on par with professional translations.
- Designed a blinded human evaluation to understand how readers judge comic translation and how to quantify the judgement.
- Developed an audio-only cardiac monitoring algorithm for Marley Health. Works reliably under real-world noise conditions.

Amazon Aug 2025 – Feb 2026
Amazon Science Fellow *Tokyo, Japan*

- Built an LLM-based manga translation pipeline with a preserve-then-decide technique that roughly halved MQM penalty.

Rakuten Nov 2024 – Feb 2025
Research Intern *Tokyo, Japan*

- Improved an explainable personal information (PII) identification model from 72% to 87% by integrating SAE features with an LSTM decoder.

National Institute of Informatics Jun 2024 – Feb 2025
Research Assistant, LLM-jp *Tokyo, Japan*

- Maintained the Slurm scheduler for LLM-jp's GPU research cluster (800 H100 GPUs).

Selected Publications

Improving Unsupervised Constituency Parsing via Maximizing Semantic Information 2025
***Junjie Chen**, Xiangheng He, Yusuke Miyao, and Danushka Bollegala* *ICLR 2025 (Spotlight)*

ProsodyFM: Unsupervised Phrasing and Intonation Control for Intelligible Speech Synthesis 2025
*Xiangheng He, **Junjie Chen**, Zixing Zhang, Björn W Schuller* *AAAI 2025 (Oral)*

Language Model Based Unsupervised Dependency Parsing with Conditional Mutual Information and Grammatical Constraints 2024
***Junjie Chen**, Xiangheng He, and Yusuke Miyao* *NAACL 2024*

Modeling Syntactic-Semantic Dependency Correlations in Semantic Role Labeling Using Mixture Models 2022
***Junjie Chen**, Xiangheng He, and Yusuke Miyao* *ACL 2022 (Oral)*

Full list of 11 publications: chrisjjc.com

Skills

Evaluation: Human Evaluation Design for Translation (MQM), LLM-as-Judge & Meta-evaluation
Modelling: Multimodal LLM Pipelines, Object Detection (YOLO, RF-DETR), Unsupervised & Structured Learning, Audio Signal Processing
ML Stack: PyTorch, Lightning, Hugging Face (Transformers, Datasets), NumPy, TensorFlow
Engineering: Python, pytest, MLflow, Gemini & Claude APIs, Slurm (Ansible)

Education

Ph.D. in Computer Science, The University of Tokyo 2025
M.S. in Computer Science, The University of Tokyo 2021
B.S. in Software Engineering, Northeastern University, China 2019