

# Weixuan Wang

PH.D. STUDENT · UNIVERSITY OF EDINBURGH

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“Seeking Research Scientist Positions in Multilingual Large Language Models.”

## Capability

- 8+ years of solid experience in the research and development in Multilingual NLP and Generative AI.
- Strong publication record in top-tier conferences, such as ACL, ICLR, EMNLP, and NAACL, won **ACL2025 Outstanding Paper Award**.
- Hands-on experience in developing end-to-end multilingual NLP commercial systems, which has been successfully deployed in AI service

## Education

### University of Edinburgh

PH.D. INSTITUTE FOR LANGUAGE, COGNITION AND COMPUTATION (ILCC)

Sep. 2023 – Now

- Supervised by Dr. Alexandra Birch and Dr. Barry Haddow.

### Dalian University of Technology

M.ENG. NEURAL LANGUAGE PROCESSING

Sep. 2017 – Jun. 2020

### Dalian University of Technology

B.SC. ENGINEERING IN SOFTWARE ENGINEERING

Sep. 2013 – Jun. 2017

## Work Experience

### Microsoft Research Cambridge

RESEARCH INTERN

Jun. 2025 – Sep. 2025

- Worked on the design and implementation of the memory management module in the multi-agent system.

### IT Innovation and Research Center (IIRC), Huawei Technologies Co., LTD

AI RESEARCHER

Apr. 2023 – Sep. 2023

- Worked on simultaneous speech translation, and large commercial machine translation platform, and multilingual LLM.

### AI Application Research Center (AARC), Huawei Technologies Co., LTD

AI RESEARCHER

Jun. 2020 – Apr. 2023

- Worked on Knowledge-enhanced NMT, domain-specific NMT, and Machine Translation Data Processing Pipeline.

## Selected Publications

- Wang, W., Wu, M., Haddow, B., & Birch, A. (2025). [Bridging the Language Gaps in Large Language Models with Inference-Time Cross-Lingual Intervention](#). In *Proceedings of 63rd Annual Meeting of the Association for Computational Linguistics, (ACL 2025, Outstanding Paper Award)*.
- Wang, W., Wu, M., Haddow, B., & Birch, A. (2025). [ExpertSteer: Intervening in LLMs through Expert Knowledge](#). *arXiv preprint arXiv:2505.12313*.
- Wang, W., Wu, M., Haddow, B., & Birch, A. (2025). [HBO: Hierarchical Balancing Optimization for Fine-Tuning Large Language Models](#). *arXiv preprint arXiv:2505.12300*.
- Wang, W., Wu, M., Haddow, B., & Birch, A. (2025). [Demystifying multilingual chain-of-thought in process reward modeling](#). *arXiv preprint arXiv:2502.12663*.
- Wang, W., Yang, J., & Peng, W. (2025). [Semantics-Adaptive Activation Intervention for LLMs via Dynamic Steering Vectors](#). *The Thirteenth International Conference on Learning Representations, (ICLR 2025), Singapore*.
- Wang, W., Haddow, B., Wu, M., Peng, W., & Birch, A. (2024). [Sharing Matters: Analysing Neurons Across Languages and Tasks in LLMs](#). *arXiv:2406.09265*.
- Wang, W., Haddow, B., & Birch, A. (2024). [Retrieval-augmented Multilingual Knowledge Editing](#). In *Proceedings of 62nd Annual Meeting of the Association for Computational Linguistics, (ACL)*.
- Wang, W., Haddow, B., Birch, A., & Peng, W. (2023). [Assessing the reliability of large language model knowledge](#). In *Proceedings of the 2024 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, (NAACL, oral)*.

- **Wang, W.**, Lee, C. M., Liu, J., Colakoglu, T., & Peng, W. (2023). [An empirical study of cyclical learning rate on neural machine translation](#). *Natural Language Engineering*, 29(2), 316-336.
- **Wang, W.**, Meng, X., Yan, S., Tian, Y., & Peng, W. (2022, December). [Huawei BabelTar NMT at WMT22 Biomedical Translation Task: How we further improve domain-specific NMT](#). In *Proceedings of the Seventh Conference on Machine Translation (WMT)* (pp. 930-935).
- **Wang, W.**, Peng, W., Huang, C. H., & Wang, H. (2022). [Positively transitioned sentiment dialogue corpus for developing emotion-affective open-domain chatbots](#). *arXiv:2208.04565*.
- **Wang, W.**, Peng, W., Zhang, M., & Liu, Q. (2021, November). [Neural Machine Translation with Heterogeneous Topic Knowledge Embeddings](#). In *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing (EMNLP)* (pp. 3197-3202).
- **Wang, W.**, Peng, W., Meng, X., & Liu, Q. (2021). [Huawei AARC's submissions to the WMT21 Biomedical Translation Task: Domain Adaption from a Practical Perspective](#). In *Proceedings of the Sixth Conference on Machine Translation* (pp. 868-873).
- **Wang, W.**, Cai, X., Huang, C. H., Wang, H., Lu, H., Liu, X., & Peng, W. (2021). [Emily: Developing An Emotion-affective Open-Domain Chatbot with Knowledge Graph-based Persona](#). *arXiv:2109.08875*.

## Projects

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### Large Commercial Neural Machine Translation

HUAWEI TECHNOLOGIES CO., LTD

Jan. 2023 – Sep. 2023

- Responsibility: Developing commercial NMT with LLM, designing the multilingual training data proportion.
- Achievements: Performance based on PanGu LLM on par with existing end-to-end NMT model in 10+ languages.

### End-to-end Simultaneous Speech Translation

HUAWEI TECHNOLOGIES CO., LTD

Jul. 2022 – May 2023

- Responsibility: Designing and evaluating the first end-to-end simultaneous translation system for Huawei meeting.
- Achievements: The end-to-end simultaneous translation system has lower latency and higher performance than the cascaded translation system.

### Cascade Simultaneous Speech Translation

HUAWEI TECHNOLOGIES CO., LTD

Jun. 2021 – Jul. 2022

- Responsibility: Designing and developing cascade simultaneous translation system for Huawei meeting.
- Achievements: SST end-to-end BLEU scores (EN<-> ZH) on par with existing commercial systems; The service successfully supported 110 + online conference sessions and 30 + onsite SST translation service for 2021/2022 Huawei STW event.

### Knowledge-enhanced NMT

HUAWEI TECHNOLOGIES CO., LTD

Sep. 2020 – May 2021

- Responsibility: Designing, implementing, and evaluating knowledge-enhance NMT algorithms based on topic modeling and homographic representation learning (HDR).
- Achievements: BLEU enhancement on the vanilla transformer Topic-enhanced model (+1.57 EN->DE), HDR (+2.3 in EN->RU) with algorithm deployed in related Huawei machine translation service; 2 peer-reviewed conference papers.

### Domain-specific NMT

HUAWEI TECHNOLOGIES CO., LTD

Jun. 2020 – Feb. 2021

- Responsibility: Developing ICT domain-specific machine translation model leveraging domain dictionaries.
- Achievements: BLEU increase +0.7 on SOTA EN->ZH working model.

### Machine Translation Data Processing Pipeline

HUAWEI TECHNOLOGIES CO., LTD

Jul. 2019 – Jul. 2020

- Responsibility: Lead developing corpus processing pipeline consisting of corpus cleaning, tokenize, data enhancement, and other functions like visualization.
- Achievements: Huawei machine translation data processing pipeline V1.0.