Zhengxiang Wang

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EDUCATION

Stony Brook University — Stony Brook, NY
Ph.D. in Computational Linguistics. Advisor: Owen Rambow — Aug 2022 − Present

University of Saskatchewan — Saskatoon, Canada
M.A. in Applied Linguistics. Advisor: Zhi Li — Sep 2019 − May 2021

Hunan University — Changsha, China
B.A. in Chinese Language and Literature — Sep 2015 − Jun 2019

INDUSTRY EMPLOYMENT

- **Software Engineer Intern**, Meta — May 2025 − Aug 2025

- **Data Scientist Intern**, The Home Depot — May 2024 − Aug 2024
    - Developed a clustering-based topic modeling pipeline reducing LLM runtime and API calls by 90+%. Further eliminated redundancy in the raw identified topics by 80+%
    - Finetuned SBERT embeddings to build an efficient semantic search network (with Faiss) to select most likely customer pain points
    - Fine-tuned BERT-like models and LLMs (e.g., full fine-tuning and PEFT) to predict customer pain points
    - Built various LLM-based autonomous validation systems (e.g., multi-agent debating), saving up to 24% in manual annotation efforts

PUBLICATIONS & MANUSCRIPTS

Book Chapters

2. Makarova, V., Li, Z. & **Wang, Z.** (2024). Can ChatGPT Grade Non-Native Academic English Writing? In *AI Approaches to Literacy in Higher Education*, page 97-116.

1. **Wang, Z.** (2023). Probabilistic Linguistic Knowledge and Token-level Text Augmentation. In *Practical solutions for Diverse Real-World NLP Applications*, page 1-20. Springer book series *Signals and Communication Technology*.

Articles

3. Li, Z., Makarova, V. & **Wang, Z.** (2023). Developing Literature Review Writing Skills through an Online Writing Tutorial Series: Corpus-based Evidence. *Frontiers in Communication*.

2. Hao, H., Cui, Y., **Wang, Z.** & Kim, Y. (2022). Thirty-Two Years of IEEE VIS: Authors, Fields of Study and Citations. *IEEE Transactions on Visualization and Computer Graphics*.

1. Peng, L., & **Wang, Z.** (2017). The Contemporary Reflection on the Sentence-based Theory Postulated by New Grammar of Modern Chinese. *Journal of Hengyang Normal University*.

Proceedings

8. **Wang, Z.**, Makarova, V., Li, Z., Kodner, J. & Rambow, O. (2025). LLMs can Perform Multi-Dimensional Analytic Writing Assessments: A Case Study of L2 Graduate-Level Academic English Writing. *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics.* (ACL 2025 Main)

7. **Wang, Z.**, Kodner, J. & Rambow, O. (2025). Evaluating LLMs with Multiple Problems at Once. *Proceedings of the Fourth Workshop on Natural Language Generation, Evaluation, and Metrics (Collocated with ACL 2025).*

6. **Wang, Z.**, Kodner, J. & Rambow, O. (2025). Exploring Limitations of LLM Capabilities with Multi-Problem Evaluation. *Proceedings of the Sixth Workshop on Insights from Negative Results in NLP (Collocated at NAACL 2025).*

5. **Wang, Z.** & Rambow, O. (2024). Clustering Document Parts: Detecting and Characterizing Influence Campaigns From Documents. *Proceedings of the 6th Workshop on Natural Language Processing and Computational Social Science (Collocated at NAACL 2024).*

4. Li, Z., Makarova, V. & **Wang, Z.** (2023). Assessment of Academic ESL Writing in an Online Tutorial for Graduate Students. *Proceedings of the 22nd European Conference on e-Learning: ECEL 2023.*

3. **Wang, Z.** (2023). Learning Transductions and Alignments with RNN Seq2seq Models. *Proceedings of the 16th International Conference on Grammatical Inference.* In *Proceedings of Machine Learning Research, Volume 217.*

2. **Wang, Z.** (2022). Linguistic Knowledge in Data Augmentation for Natural Language Processing: An Example on Chinese Question Matching. *Proceedings of the 5th International Conference on Natural Language and Speech Processing.*

1. **Wang, Z.** (2022). Random Text Perturbations Work, but not Always. *Proceedings of the 3rd Workshop on Evaluation and Comparison of NLP Systems (co-located at AACL 2022).*

Manuscripts

5. **Wang, Z.** Li, W., Kaliosis, P., Brennan, S., & Rambow O. (2025). LVLMs are Bad at Overhearing Human Referential Communication. Submitted to EMNLP 2025.

4. **Wang, Z.** Tripto, N., Park, S., Li, Z., & Zhou J. (2025). Catch Me If You Can? Not Yet: LLMs Still Struggle to Imitate the Implicit Writing Styles of Everyday Authors. Submitted to EMNLP 2025.

3. **Wang, Z.** (2021). A Macroscopic Re-examination of Language and Gender: A Corpus-based Case Study in University Instructor Discourses. MA Dissertation, University of Saskatchewan.

2. **Wang, Z.** (2019). Analysis on the quantitativeness of reduplication in Modern Mandarin. BA Dissertation (in Chinese), Hunan University.

1. **Wang, Z.** (2017-2019). Grammar as science: Rethinking the construction of Modern Chinese Grammar. Granted project (outcomes are 99 pages/11 papers in Chinese) for the National Student Innovation Training Program.

AWARDS & HONORS

- **Junior Researcher Award**, Institute for Advanced Computational Science — 2024
- **Distinguished Travel Award**, Graduate Student Organization — 2023
- **Professional Development Award**, Graduate Student Employees Union — 2023
- **Mitacs Globalink Graduate Fellowship**, Mitacs — 2019
- **Excellent Graduate of the year**, Hunan University — 2019
- **Chinese Government Scholarship**, China Scholarship Council — 2018
- **The First-Class Scholarship**, Hunan University — 2017, 2018
- **National Student Innovation Training Program Grant**, Ministry of Education of China — 2017

- **Triple-A student**, Hunan University   2016
- **National Scholarship**, Ministry of Education of China   2016

Research Employment

- **Research Assistant**, under Owen Rambow, SUNY Research Foundation   Jan 2025 − May 2025
  Achieving Common Ground Through Language and Vision in Mixed-Initiative Human-Machine Communication.
- **Research Assistant**, under Owen Rambow, SUNY Research Foundation   May 2023 − May 2024
  DARPA-funded project: Influence Campaigns Awareness and Sensemaking (INCAS).
- **Research Assistant**, under Veronika Makarova & Zhi Li, University of Saskatchewan   May 2020 − Jun 2021
  Assessing the development of Academic ESL Writing by international graduate students.
- **Research Assistant**, under Benjamin V. Tucker, University of Alberta   Summer 2018
  Phonological perceptions of Chinese English learners for reduced English sounds.

Teaching Employment

- **LIN120: Language and Technology**. Teaching Assistant   Fall 2024
  Instructor: Owen Rambow. Stony Brook University.
- **Summer Youth Camp in Computational Linguistics**. Instructor   Aug 2023
  Organizer: Jeffrey Heinz, Stony Brook University
- **LIN335: Computational Linguistics**. Teaching Assistant   Spring 2023
  Instructor: Jordan Kodner. Stony Brook University.
- **LIN120: Language and Technology**. Teaching Assistant   Fall 2022
  Instructor: Owen Rambow. Stony Brook University.

Certificates

- **Machine Learning Specialization**, Deeplearning.AI   2022
- **Practical Data Science on the AWS Cloud**, Deeplearning.AI   2022
- **Deep Learning Specialization**, Deeplearning.AI   2021
- **Machine Learning**, Stanford Online   2021
- **Deep Learning Based Natural Language Processing**, Baidu PaddlePaddle   2021

Skills

- **Programming:** Python, Hack, R, LaTeX, Octave, HTML, C/C++, Haskell, Bash
- **Frameworks:** LangChain, Transformers, PyTorch, TensorFlow, Keras, PaddlePaddle, NumPy, Jax, scikit-learn
- **Cloud Computing:** Google Cloud Platform, AWS
- **Languages:** Mandarin, English, Fuqing Dialect

Reviewing

- ACL 2025   Industry Track
  Reviewed three papers.
- The Sixth Workshop on Insights from Negative Results in NLP   ACL 2025 Workshop
  Reviewed one paper.

- COLING 2025   Industry Track
  Reviewed three papers.

SERVICE

- Secretary   Sep 2024 − Present
  Graduate Student Organization, IACS, Stony Brook University
- Social media manager   Aug 2024 − Present
  Linguistics Department, Stony Brook University
- Skillz Hour organizer   Sep 2023 − Dec 2023
  Linguistics Department, Stony Brook University
- Student organizer   Aug 2022 − May 2023
  Mathematical Linguistics Reading Group, Stony Brook University
- ESL classroom volunteer   Dec 2019 − Mar 2020
  The Global Gathering Place, Saskatoon
- Co-founder and president   May 2016 − Jun 2019
  Hunan University Student Ambassadors Association, Hunan University
- Student organizer   May 2019
  University of Regina's China Study Tour (4 weeks), Hunan University
- Volunteer and interpreter   Sep 2018
  UNESCO conference "Role of linguistic diversity" (3 days), Changsha

AFFILIATION

- **Member of Institute for Advanced Computational Science, SBU**   Mar 2023 − Present
- **BIAS National Science Foundation Research Traineeship**   Jun 2023 − Present
- **Association for Computational Linguistics**   Feb 2022 − Present
- **Linguistics Society of America**   Apr 2023 − Apr 2024

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