Xintong Wang

EDUCATION

University of Hamburg — Hamburg, Germany
Ph.D. in Computer Science, Advisor: Prof. Dr. Chris Biemann — Apr. 2021 - Apr. 2025
- Thesis: "Multimodal Representation Learning: Understanding and Leveraging"

South China University of Technology — Guangzhou, China
M.S. in Computer Science, GPA: 3.70/4.00, Advisor: Prof. Dr. Jianming Lv — Sept. 2016 - July 2019
- Thesis: "Research on Abstractive Summarization"

South China University of Technology — Guangzhou, China
B.S. in Computer Science, GPA: 3.40/4.00 — Sept. 2012 - June 2016
- Thesis: "Spatio-temporal Data Storage and Mining Systems"

EXPERIENCE

The Chinese Academy of Sciences — Beijing, China
Visiting Researcher, Advisor: Prof. Dr. Xingshan Li — Dec. 2022 - Mar. 2023
- Language Models
- Understand Language Models from Cognition Perspective: Regression and Prediction

University of Hamburg — Hamburg, Germany
Research Associate, Advisor: Prof. Dr. Chris Biemann — May. 2020 - Mar. 2021
- Cross-modal Learning
- Cross-modal Learning for Improving Human Learning to Read

The Hong Kong Polytechnic University — Hong Kong, China
Research Assistant, Advisor: Prof. Dr. Wenjie Li — Oct. 2018 - Aug. 2019
- Summarization
- Fusing External Language Models in the Abstractive Summarization

The Chinese Academy of Sciences — Shenzhen, China
Visiting Student Researcher, Advisor: Prof. Dr. Min Yang — Mar. 2018 - Oct. 2018
- Summarization
- Generative Adversarial Network for Abstractive Text Summarization with Multi-task Constraint

PUBLICATIONS

1. **Xintong Wang**, Longquan Jiang, Wei Wei, Liang Ding, Qingqing Qu, Xingshan Li, and Chris Biemann, "Using Long Contexts in Language Models for Cognition-Specific Text Generation", *Ongoing Work. Jan. 2024*

2. **Xintong Wang**, Jingheng Pan, Liang Ding, and Chris Biemann, "Improving Multimodal Alignment in Vision-Language Pretraining using Contrastive Decoding", *Under Review. Dec. 2023*

3. **Xintong Wang**, Yixiao Liu, and Chris Biemann, "Mitigating Biases in Chinese Toxic Language via Sentiment Polarity Consistent Rewrites", *Under Review. Dec. 2023*

4. **Xintong Wang**, Jingheng Pan, Liang Ding, and Chris Biemann, "Enhancing Compositional Understanding in Vison-Language Models through Hard Negative Contrastive Learning", *Under Review. Dec. 2023*

5. **Xintong Wang**, Xiaoyu Li, Liang Ding, Xingshan Li, and Chris Biemann, "Cognition-Inspired Efficient Semantic Edit: An Empirical Study on Language Toxification and Detoxification", *Under Review. Dec. 2023*

6. **Xintong Wang**, Xiaoyu Li, Xingshan Li, and Chris Biemann, "Probing Large Language Models from A Human Behavioral Prospective", *Under Review. Oct. 2023*

7. **Xintong Wang**, Xiaoyu Li, Liang Ding, Sanyuan Zhao, and Chris Biemann, "Using Self-Supervised Dual Constraint Contrastive Learning for Cross-modal Retrieval", *Proceedings of the 26th European Conference on Artificial Intelligence (ECAI). September 2023*

8. Anton Orell Wiehe, Florian Schneider, Sebastian Blank, **Xintong Wang**, Hans-Peter Zorn, and Chris Biemann, "Language over Labels: Contrastive Language Supervision Exceeds Purely Label-Supervised Classification Performance on Chest X-Rays", *Proceedings of the 2022 Asia-Pacific Chapter of the Association for Computational Linguistics: Student Research Workshop (AACL-IJCNLP SRW). November 2022*

9. **Xintong Wang***, Florian Schneider*, Özge Alacam, Prateek Chaudhury, Chris Biemann, "MOTIF: Contextualized Images for Complex Words to Improve Human Reading", *Proceedings of the 13th Edition of its Language Resources and Evaluation Conference (LREC), June 2022*

10. Florian Schneider, Özge Alacam, **Xintong Wang**, and Chris Biemann, "Towards Multi-Modal Text-Image Retrieval to improve Human Reading", *Proceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Student Research Workshop (NAACL SRW). June 2021*

11. Min Yang, **Xintong Wang**, Yao Lu, Jianming Lv, Ying Shen, and Chengming Li, "Plausibility-promoting Generative Adversarial Network for Abstractive Text Summarization with Multi-task Constraint", *Information Sciences,521 (2020): 46-61*

12. Jianming Lv, and **Xintong Wang**, "Cross-dataset Person Re-identification using Similarity Preserved Generative Adversarial Networks", *Proceedings of the 11th International Conference on Knowledge Science, Engineering and Management (KSEM), August 2018*

13. Jianming Lv, Qing Li, Qinghui Sun, and **Xintong Wang**, "T-CONV: A Convolutional Neural Network for Multi-scale Taxi Trajectory Prediction", *Proceedings of the 2018 IEEE International Conference on Big Data and Smart Computing (bigcomp), January 2018*

14. Haitao Yang, Jianming Lv, Fei Xu, **Xintong Wang**, Yilin Huang, Lanting Xia, and Xuewu Zhu, "Regression Approach for Optimal Purchase of Hosts Cluster in Fixed Fund for Hadoop Big Data Platform", *Proceedings of the 19th International Conference on Smart City, Transportation and Buildings, June 2017* **(Best Presentation Award)**

15. Jianming Lv, **Xintong Wang**, Fengtao Huang, Junjie Yang, Tianfeng Wu, and Qifa Yan, "TREST: A Hadoop Based Distributed Mobile Trajectory Retrieval System", *Proceedings of the 2016 IEEE First International Conference on Data Science in Cyberspace (DSC), June 2016*

TEACHING

- **Project Mentor** at University of Hamburg Summer 2022/2023
  Master Project Web Interfaces for Language Processing Systems
- **Co-instructor** at University of Hamburg Winter 2020
  Master Course Natural Language Processing for Web

SUPERVISION

Master Theses

- **Fabian Meyer** MSc, at Universität Hamburg 16.04.2023

Thesis: On the Potential and Limits of Zero-Shot Out-of-Distribution of Detection

- **Anton Orell Wiehe** MSc, at Universität Hamburg   10.07.2022
  Thesis: Domain Adaptation for Multi-Modal Foundation Models

- **Matthew Ng Cher-Wai** MSc, at Universität Hamburg   06.06.2022
  Thesis: Multi-modal Fictional Backstory Generation using Transformer-Aspect-Backstory Generator

- **Ankit Srivastava** MSc, at Universität Hamburg   13.03.2022
  Thesis: Complex Word Identification for Language Learners

- **Florian Schneider** MSc, at Universität Hamburg   27.07.2021
  Thesis: Self-Supervised Multi-Modal Text-Image Retrieval Methods to Improve Human Reading
  GSCL Best Master's Thesis Award 2023

Research Assistants

- **Yixiao Liu** BSc, at Southwest University, Chongqing, China   01.10.2023 - Current
  Topic: Mitigating Biases in Chinese Toxic Language

- **Jingheng Pan** MSc, at Universität Hamburg, Hamburg, Germany   15.09.2023 - Current
  Topic: Data-Efficient Method for Improving Cross-modal Alignment

- **Xiaoyu Li** MSc, at Technische Universität Berlin, Berlin, Germany   01.10.2022 - 30.09.2023
  Topic: Dual Constraint Contrastive in Cross-modal Retrieval

- **Prateek Chaudhury** BSc, at Indian Institute of Technology Delhi, New Delhi, India   01.06.2021 - 31.08.2021
  Topic: Reading Material Analysis for Second Language Learners

SKILLS

- **Programming Languages:** Python, Java, C++, C

- **Toolkit for Deep Learning:** PyTorch, TensorFlow, Numpy, Pandas, Matplotlib, NLTK, spaCy, Scikit-learn

LANGUAGES

- **Chinese:** Native speaker
- **English:** Highly proficient in spoken and written (C1)
- **German:** Basic communication skills (A2)

PROJECTS

- SFB TRR 169 Project C7: Crossmodal Learning for Improving Human Reading
  Funded by German Research Foundation: 05.2020 - 12.2024, Doctoral Researcher

SCHOLARSHIPS AND AWARDS

- 26th European Conference on Artificial Intelligence ECAI 2023, Travel Grant Award   2023
- South China University of Technology, Graduate Research Scholarships   2016–2019
- South China University of Technology, Bachelor Scholarships   2013–2016
- Tencent Research Scholarship   2016–2016
- Outstanding Winner of Pearl River Delta+ National College Students Innovation Contest, Team Leader   2015
- Honorable Mention of Mathematical Contest In Modeling Certificate of Achievement   2015

PROFESSIONAL ACTIVITIES

- Session Chair: ECAI 2023 Technical Sessions   2023
  Speech and Natural Language Processing

- Co-organizer: CLEF-2024 SemEval Task   2023

Multilingual Text Detoxification

- Invited talk at the University of Wuppertal, *Host: PD. Dr. Markus Hofmann, Prof. Dr. Ralph Radach*   2023
  Probing Large Language Models (LLMs) for Predicting Human Behavioral Data
- Conference Reviewer: EMNLP, IJCNLP-AACL, ACL, ACM MM, ECAI   2023
  Multimodal Learning, Sentiment Analysis, Stylistic Analysis, and Argument Mining
- Conference Reviewer: ACL, EMNLP, AACL-IJCNLP, EACL   2022
  Cognitive Modeling and Psycholinguistics, Summariaztion, Multimodal
- Conference Reviewer: ACL, NAACL, IJCAI/Senior Program Committee, KONVENS/Program Committee   2021
  Summarization, Generation, Crossmodal Learning, Multilingual Hate Speech
- Conference Reviewer: ACL, EMNLP, AACL, IJCNLP   2020
  Summarization, Generation, Multidisciplinary
- Conference Reviewer: EMNLP, NLPCC   2019
  Summarization, Conversational Bot/QA/IR/Dialogue
- Reviewer for ACL Rolling Review (ARR)   2021–2023
  Crossmodal Learning, Machine Translation
- Reviewer for Journal TALLIP   2020–2021
  Natural Language Processing
- Reviewer for Journal IEEE Access   2020–2021
  Computer Vision, Natural Language Processing