

# Xintong Wang

## EDUCATION

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### University of Hamburg

Ph.D. in Computer Science, Advisor: Prof. Dr. Chris Biemann

- Thesis: “Multimodal Representation Learning: Understanding and Leveraging”

Hamburg, Germany

Apr. 2021 - Jan. 2025

### South China University of Technology

M.S. in Computer Science, GPA: 3.70/4.00, Advisor: Prof. Dr. Jianming Lv

- Thesis: “Research on Abstractive Summarization”

Guangzhou, China

Sept. 2016 - July 2019

### South China University of Technology

B.S. in Computer Science, GPA: 3.40/4.00

- Thesis: “Spatio-temporal Data Storage and Mining Systems”

Guangzhou, China

Sept. 2012 - June 2016

## EXPERIENCE

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### The Chinese Academy of Sciences

Visiting Researcher, Advisor: Prof. Dr. Xingshan Li and Prof. Dr. Qingqing Qu

- Language Models
- Understand Language Models from Cognition Perspective: Regression and Prediction

Peking, China

Dec. 2022 - Mar. 2023

### University of Hamburg

Research Associate, Advisor: Prof. Dr. Chris Biemann

- Cross-modal Learning
- Cross-modal Learning for Improving Human Learning to Read

Hamburg, Germany

May 2020 - Mar. 2021

### The Hong Kong Polytechnic University

Research Assistant, Advisor: Prof. Dr. Wenjie Li

- Summarization
- Fusing External Language Models in the Abstractive Summarization

Hong Kong, China

Oct. 2018 - Aug. 2019

### The Chinese Academy of Sciences

Visiting Student Researcher, Advisor: Prof. Dr. Min Yang

- Summarization
- Generative Adversarial Network for Abstractive Text Summarization with Multi-task Constraint

Shenzhen, China

Mar. 2018 - Oct. 2018

## PUBLICATIONS

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1. **Xintong Wang**, Jingheng Pan, Liang Ding, and Chris Biemann, “Vision-Language Uncertainties Exacerbate Hallucinations in Large Vision-Language Models”, *IEEE Transactions on Multimedia (TMM)*, Under Review and Pre-Print. 2024
2. **Xintong Wang**, Jingheng Pan, Liang Ding, and Chris Biemann, “Enhancing Compositional Understanding and Reasoning in Vision-Language Models through Chain-of-Thought”, *The 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, Under Review and Pre-Print. 2024
3. **Xintong Wang**, Yixiao Liu, and Chris Biemann, “Mitigating Biases in Chinese Toxic Language via Sentiment Polarity Consistent Rewrites”, *The 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, Under Review and Pre-Print. 2024

4. **Xintong Wang**, Xiaoyu Li, Xingshan Li, and Chris Biemann, “Cognition-Inspired Efficient Semantic Edit: An Empirical Study on Language Toxification and Detoxification”, *The 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, Under Review and Pre-Print. 2024
5. Daryna Dementieva, Daniil Moskovskiy, Nikolai Babakov, Abinew Ali Ayele, Naqee Rizwa, Florian Schneider, **Xintong Wang**, Seid Muhie Yimam, Dmitry Ustalov, Elisei Stakovskii, Alisa Smirnova, Ashraf Elnagar, Animesh Mukherjee and Alexander Panchenko, “MultiParaDetox 2.0: Multilingual Text Detoxification and Toxicity Detection for 9 Languages”, *The 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, Under Review and Pre-Print. 2024
6. Daryna Dementieva, Daniil Moskovskiy, Nikolai Babakov, Abinew Ali Ayele, Naqee Rizwa, Florian Schneider, **Xintong Wang**, Seid Muhie Yimam, Dmitry Ustalov, Elisei Stakovskii, Alisa Smirnova, Ashraf Elnagar, Animesh Mukherjee and Alexander Panchenko, “Overview of the Multilingual Text Detoxification Task at PAN 2024”, *Proceedings of the Conference and Labs of the Evaluation Forum (CLEF 2024)*. June 2024
7. **Xintong Wang**, Jingheng Pan, Liang Ding, and Chris Biemann, “Mitigating Hallucinations in Large Vision-Language Models with Instruction Contrastive Decoding”, *Proceedings of Findings of the 62nd Annual Meeting of the Association for Computational Linguistics (ACL)*. August 2024 (**Core Rank A\***)
8. **Xintong Wang**, Xiaoyu Li, Xingshan Li, and Chris Biemann, “Probing Large Language Models from A Human Behavioral Perspective”, *Proceedings of the Bridging Neurons and Symbols for Natural Language Processing and Knowledge Graphs Reasoning at 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (NeusymBridge at LREC-COLING)*. May 2024
9. **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 (**Core Rank A**)
10. 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 (SRW at AACL-IJCNLP)*. November 2022
11. **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 (**Core Rank B**)
12. 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 (SRW at NAACL)*. June 2021
13. 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 (**Core Rank A and JCR-Q1**)
14. 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 (**Core Rank B**)
15. 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
16. 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**)
17. 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

18. Haibiao Lin, Jianming Lv, Can Yang, Miaoyi Deng, Kaitao Wang, and **Xintong Wang**, “GPS Trajectory Mining: A Survey”, *Journal of Computational Information Systems*,16 (2014): 6947–6956

## TEACHING

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- **Project Mentor** at University of Hamburg Summer 2022/2023  
*Master Project: Web Interfaces for Language Processing Systems*
- **Lecturer** at University of Hamburg Winter 2020  
*Master Course: Natural Language Processing and the Web*

## SUPERVISION

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### Master Theses

- **Jingheng Pan** MSc, at Universität Hamburg 01.10.2024  
*Thesis: Compositional Understanding and Reasoning in Large Vision-Language Models*
- **Xiaoyu Li** MSc, at Technische Universität Berlin & Beijing Institute of Technology 06.03.2024  
*Thesis: Methods towards Understanding and Application of Foundation Models*
- **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

- **Longqin Jiang** MSc, at Universität Hamburg, Hamburg, Germany 01.05.2024 - Current  
*Topic: Trustful and Explainable Large Language Models*
- **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: Mitigating Hallucinations in Large Vision-Language Models*
- **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

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- **Programming Languages:** Python, Java, C++, C
- **Toolkit for Deep Learning:** PyTorch, TensorFlow, Numpy, Pandas, Matplotlib, NLTK, spaCy, Scikit-learn

## LANGUAGES

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

## PROJECTS

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

## SCHOLARSHIPS AND AWARDS

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- 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 International Mathematical Contest In Modeling Certificate of Achievement 2015

## PROFESSIONAL ACTIVITIES

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- Session Chair: ECAI 2023 Technical Sessions 2023  
*Speech and Natural Language Processing*
- Organizer and Task Committee: CLEF-2024 SemEval Task 2023  
*Multilingual Text Detoxification*
- Invited talk at the University of Wuppertal, *Hosts: Prof. Dr. Markus Hofmann, Prof. Dr. Ralph Radach* 2023  
*Probing Large Language Models (LLMs) for Predicting Human Behavioral Data*
- Conference Reviewer: ACL, EMNLP, NAACL, LREC-COLING, ECCV, ACM MM 2024  
*Multimodal Learning, Interpretability and Analysis of Models for NLP, Integrated Systems and Applications*
- Conference Reviewer: ACL, EMNLP, NAACL, EACL, IJCNLP-AACL, CVPR, ACM MM, ECAI 2023  
*Multimodal Learning, Sentiment Analysis, Stylistic Analysis, and Argument Mining*
- Conference Reviewer: ACL, EMNLP, EACL, IJCNLP-AACL 2022  
*Cognitive Modeling and Psycholinguistics, Summarization, Multimodal*
- Conference Reviewer: ACL, NAACL, IJCAI/Senior Program Committee, KONVENS/Program Committee 2021  
*Summarization, Generation, Crossmodal Learning, Multilingual Hate Speech*
- Conference Reviewer: ACL, EMNLP, IJCNLP-AACL 2020  
*Summarization, Generation, Multidisciplinary*
- Conference Reviewer: EMNLP, NLPCC 2019  
*Summarization, Conversational Bot/QA/IR/Dialogue*
- Reviewer for ACL Rolling Review (ARR) 2021–2024  
*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*