Xintong Wang

Last update: October 20th, 2023

# EDUCATION

University of Hamburg

Hamburg, Germany

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

Apr. 2021 - Sept. 2024

- Thesis: "Multimodal Representation Learning: Understanding and Leveraging"

South China University of Technology

Guangzhou, China

M.S. in Computer Science, GPA: 3.70/4.00

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**, Wei Wei, Liang Ding, Qingqing Qu, Xingshan Li, and Chris Biemann, "Using Long Contexts in Language Models for Cognition-Specific Text Generation", *Ongoing Work. October 2023*
- 2. **Xintong Wang**, Jingheng Pan, Liang Ding, and Chris Biemann, "Improving Multimodal Alignment in Vision-Language Pretraining from Contrastive Decoding", *Ongoing Work. October 2023*
- 3. **Xintong Wang**, Yixiao Liu, and Chris Biemann, "Mitigating Biases in Chinese Toxic Language via Sentiment Polarity Consistent Rewrites", *Ongoing Work. October 2023*

- 4. **Xintong Wang**, Xiaoyu Li, Xingshan Li, and Chris Biemann, "Probing Large Language Models from A Human Behavioral Prospective", *Under Review. June 2023*
- 5. **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*
- 6. 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
- 7. **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
- 8. 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*
- 9. 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
- 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
- 11. Jianming Lv, Qing Li, Qinghui Sun, and **Xintong Wang**, "T-CONV: A Convolutional Neural Network for Multiscale Taxi Trajectory Prediction", *Proceedings of the 2018 IEEE International Conference on Big Data and Smart Computing (bigcomp)*, January 2018
- 12. 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

Master Project Web Interfaces for Language Processing Systems

Summer 2022/2023

• Co-instructor at University of Hamburg

Master Course Natural Language Processing for Web

Winter 2020

#### SUPERVISION

#### Master Theses

Waster 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	

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• 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, Chongging, 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 LANGUAGES • Chinese: Native speaker • Programming Languages: Python, Java, C++, C • English: Highly proficient in spoken and written (C1) • Toolkit for Deep Learning: PyTorch, TensorFlow, Numpy, Pandas, Matplotlib, NLTK, spaCy, Scikit-learn • 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 2023 26th European Conference on Artificial Intelligence ECAI 2023, Travel Grant Award • South China University of Technology, Graduate Research Scholarships 2016-2019 • South China University of Technology, Bachelor Scholarships 2013-2016 • Tencent Research Scholarship 2016 - 2016• 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

2021

Summarization, Generation, Crossmodal Learning	
• 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	