Zhepei (Bruce) Wei

Curriculum Vitae

CONTACT INFORMATION	Department of Computer Science University of Virginia Room 224, Rice Hall Charlottesville, VA 22903 Email : tqf5qb@virginia.edu Homepage: weizhepei.com

RESEARCH INTERESTS

Large Language Model (LLM), Textual Representation Learning, Trustworthy Language Generation and Reasoning

EDUCATION

University of Virginia — Charlottesville, U.S.
- *Ph.D., Department of Computer Science* — *Aug 2022 - present*
- Advisor: Prof. Yu Meng

Jilin University — Changchun, China
- *M.S., School of Artificial Intelligence* — *Sep 2019 - Jun 2022*
- *B.S., College of Computer Science and Technology* — *Sep 2015 - Jul 2019*
- Advisor: Prof. Yi Chang

RESEARCH EXPERIENCE

University of Virginia — Charlottesville, U.S.
Research Assistant — *Aug 2023 - present*
- **Advisor:** Prof. Yu Meng
- **Retrieval-augmented Generation:** Research on retrieval-augmented large language model (LLM) for knowledge-intensive tasks such as question answering.

University of Virginia — Charlottesville, U.S.
Research Assistant · Human-Centric Data Mining Lab — *Aug 2022 - Aug 2023*
- **Advisor:** Prof. Hongning Wang
- **Incentivized Federated Bandits:** Research on incentivized communication problem for federated bandits with near-optimal theoretical guarantees.

Jilin University — Changchun, China
Research Assistant — *Sep 2019 - Jun 2022*
- **Advisor:** Prof. Yi Chang
- **Language Understanding and Reasoning:** Research on text-based language understanding and reasoning tasks with knowledge graph and pre-trained language models such as BERT.

Huawei Research — Beijing, China
Research Intern · Poisson Lab (2012 Lab) — *Jul 2018 - Aug 2019*
- **Mentor:** Dr. Yantao Jia
- **Knowledge Graph:** Research on knowledge graph construction from unstructured and semi-structured data, focusing on entity and relation extraction.

Jilin University — Changchun, China
Research Assistant · Machine Learning Lab — *May 2017 - Jun 2018*
- **Advisor:** Prof. You Zhou
- **Autonomous Agent:** Research on improved deep Q-learning (reinforcement leaning) for autonomous decision-making in the simulated interactive environment.

SELECTED PUBLICATIONS

Google Scholar Citations: 500+, Github Stars: 800+ (as of Apr. 2024)

1. **Zhepei Wei**, Chuanhao Li, Tianze Ren, Haifeng Xu, Hongning Wang. *Incentivized Truthful Communication for Federated Bandits.* ICLR 2024.

2. **Zhepei Wei**, Chuanhao Li, Haifeng Xu, Hongning Wang. *Incentivized Communication for Federated Bandits.* NeurIPS 2023.

3. Erxin Yu, Lan Du, Yuan Jin, **Zhepei Wei**, Yi Chang. *Learning Semantic Textual Similarity via Topic-informed Discrete Latent Variables.* EMNLP 2022.

4. **Zhepei Wei**, Yue Wang, Jinnan Li, Zhining Liu, Erxin Yu, Yuan Tian, Xin Wang, Yi Chang. *Towards Unified Representations of Knowledge Graph and Expert Rules for Machine Learning and Reasoning.* AACL-IJCNLP 2022.

5. Runliang Niu, **Zhepei Wei**, Yan Wang, Qi Wang. *AttExplainer: Explain Transformer via Attention by Reinforcement Learning.* IJCAI-ECAI 2022.

6. **Zhepei Wei**, Jianlin Su, Yue Wang, Yuan Tian, Yi Chang. *A Novel Cascade Binary Tagging Framework for Relational Triple Extraction.* ACL 2020.

7. **Zhepei Wei**, Di Wang, Ming Zhang, Ah-Hwee Tan, Chunyan Miao, You Zhou. *Autonomous Agents in Snake Game via Deep Reinforcement Learning.* ICA 2018.

AWARDS & HONORS

- Outstanding Graduate Research Award (2024)   University of Virginia
- NeurIPS Scholar Award (2023)   NeurIPS Foundation
- Computer Science Scholar Fellowship (2022)   University of Virginia
- National Scholarship (2018, 2020)   Ministry of Education of China
- First-Class Scholarship (2017, 2020)   Jilin University
- Outstanding Graduate Award (2020)   Jilin University
- Honor Graduation Award (2019)   Jilin University
- Outstanding Undergraduate Award (2016, 2017, 2018)   Jilin University
- Undergraduate Leadership Award (2016, 2017)   Jilin University
- National Endeavor Scholarship (2016)   Ministry of Education of China

ACADEMIC SERVICES

Conference Paper Reviewer
- International Conference on Machine Learning (ICML), 2024
- The Web Conference (WWW), 2023
- Conference on Empirical Methods in Natural Language Processing (EMNLP), 2021
- The AAAI Conference on Artificial Intelligence (AAAI), 2020 $\sim$ 2021, 2024
- Annual Meeting of the Association for Computational Linguistics (ACL), 2020
- ACM International Conference on Information and Knowledge Management (CIKM), 2020
- IEEE International Conference on Data Mining (ICDM), 2019

Journal Article Reviewer
- Elsevier Neurocomputing
- ACM Transactions on Intelligent Systems and Technology (TIST)
- IEEE Transactions on Knowledge and Data Engineering (TKDE)
- Transactions on Machine Learning Research (TMLR)