Zhenrui Yue

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Education

University of Illinois Urbana-Champaign   **Champaign, IL**
Ph.D. in Cognitive Science & Language Processing   *Aug 2021 – Dec 2025 (expected)*
- Research Interests: Natural Language Processing, Recommender Systems & Information Retrieval
- Courses: Advanced NLP, ML Security & Privacy, Deep Gen. & Dyn. Models, Math Models of Language, Computer Vision etc.

Technische Universität München   **Munich, Germany**
M.Sc. in Robotics, Cognition, Intelligence   *Apr 2019 – May 2021*
- Exchange Year (2019 - 2020) at UC San Diego with Max Weber Scholarship
- Courses: Intro to AI, Machine Learning, Deep Learning, Cognitive System, Multiple View Geometry, Robotics, Motion Planning etc.

Technische Universität München   **Munich, Germany**
B.Sc. in Mechanical Engineering   *Oct 2015 – Mar 2019*
- Track: Mechatronics and Information Technology
- Courses: Mathematics, Mechanics, Control Theory, Simulation, Intro to CS, Software Engineering, Algo & Data Structures etc.

Experience

University of Illinois Urbana-Champaign   **Champaign, IL**
Research / Teaching Assistant   *Aug 2021 – Present*
- Proposed novel methods, performed experiments and prepared publications for machine learning and AI research
- Assisted in the teaching and coordination of multiple courses, provided academic support to individual students

Google DeepMind   **Mountain View, CA**
Student Researcher   *May 2024 – Dec 2024*
- Conduct research in retrieval augmented generation (RAG) with Gemini models, experiment and evaluate existing methods
- Propose and implement novel scaling methods for long-context RAG to improve performance on knowledge-intensive tasks

NVIDIA AI   **Remote, IL**
Research Intern   *May 2023 – Aug 2023*
- Engaged in research on recommender systems, conduct experiments and evaluate the performance of current approaches
- Designed and implemented large language model-based re-ranking (LlamaRec) for preference understanding and recommendation

Siemens   **Munich, Germany**
Software Intern   *Dec 2018 – Sep 2019*
- Developed a web crawler to extract online product specs and a purchasing database with access interface
- Implemented a purchasing process application for product selection, entry filtering and order document generation

Selected Publication

Retrieval Augmented Conversational Recommendation with Preference Optimization
- **Zhenrui Yue**, Honglei Zhuang, Zhen Qin, Zhankui He, Huimin Zeng, Julian McAuley, Dong Wang
- *In Submission*

Search-R1: Training LLMs to Reason and Leverage Search Engines with Reinforcement Learning
- Bowen Jin, Hansi Zeng, **Zhenrui Yue**, Jinsung Yoon, Sercan Arik, Dong Wang, Hamed Zamani, Jiawei Han
- *In Submission*

Inference Scaling for Long-Context Retrieval Augmented Generation
- **Zhenrui Yue***, Honglei Zhuang*, Aijun Bai, Kai Hui, Rolf Jagerman, Hansi Zeng, Zhen Qin, Dong Wang, Xuanhui Wang, Michael Bendersky
- *ICLR 2025 (Oral)*

Train Once, Deploy Anywhere: Matryoshka Representation Learning for Multimodal Recommendation
- Yueqi Wang*, **Zhenrui Yue***, Huimin Zeng, Dong Wang, Julian McAuley
- *Findings of EMNLP 2024*

Retrieval Augmented Fact Verification by Synthesizing Contrastive Arguments
- **Zhenrui Yue**, Huimin Zeng, Lanyu Shang, Yifan Liu, Yang Zhang, Dong Wang

- *ACL 2024*

Open-Vocabulary Federated Learning with Multimodal Prototyping

- Huimin Zeng, **Zhenrui Yue**, Dong Wang
- *NAACL 2024*

Linear Recurrent Units for Sequential Recommendation

- **Zhenrui Yue***, Yueqi Wang*, Zhankui He, Huimin Zeng, Julian McAuley, Dong Wang
- *WSDM 2024*

LlamaRec: Two-Stage Recommendation using Large Language Models for Ranking

- **Zhenrui Yue**, Sara Rabhi, Gabriel Moreira, Dong Wang, Even Oldridge
- *PGAI@CIKM 2023*

Manipulating Out-Domain Uncertainty Estimation in Deep Neural Networks via Targeted Clean-Label Poisoning

- Huimin Zeng, **Zhenrui Yue**, Yang Zhang, Lanyu Shang, Dong Wang
- *CIKM 2023*

MetaAdapt: Domain Adaptive Few-Shot Misinformation Detection via Meta Learning

- **Zhenrui Yue**, Huimin Zeng, Yang Zhang, Lanyu Shang, Dong Wang
- *ACL 2023 (Oral)*

On Attacking Out-Domain Uncertainty Estimation in Deep Neural Networks

- Huimin Zeng, **Zhenrui Yue**, Yang Zhang, Ziyi Kou, Lanyu Shang, Dong Wang
- *IJCAI 2022*

Defending Substitution-Based Profile Pollution Attacks on Sequential Recommenders

- **Zhenrui Yue**, Huimin Zeng, Ziyi Kou, Lanyu Shang, Dong Wang
- *RecSys 2022*

Contrastive Domain Adaptation for Question Answering using Limited Text Corpora

- **Zhenrui Yue**, Bernhard Kratzwald, Stefan Feuerriegel
- *EMNLP 2021 (Oral)*

Black-Box Attacks on Sequential Recommenders via Data-Free Model Extraction

- **Zhenrui Yue***, Zhankui He*, Huimin Zeng, Julian McAuley
- *RecSys 2021*

Teaching

University of Illinois Urbana-Champaign	**Champaign, IL**
Computer Networks	*Spring 2024*
Concepts of Machine Learning	*Fall 2023*
Introduction to Database	*Fall 2022*
Analytical Fndts Info Problems	*Spring 2022*

Awards

Shiyu Scholarship	*2024*
SIGIR & RecSys Travel Award	*2022*
Bosch AIoT Scholarship	*2021*
E-fellows.net Scholarship	*2020*
Max Weber Academic Exchange Scholarship	*2019*
Audi Campus Ambassador Scholarship	*2018*
Max Weber Program Scholarship	*2017*

Miscellaneous

Coding: Python, C / C++; experiences with PyTorch, Jax, TensorFlow, Docker, Git, Bash, AWS, etc.
Languages: Native in Mandarin and Cantonese, proficient in English and German, beginner in Spanish
Service: AAAI, ARR (ACL, EMNLP, NAACL, etc.), COLING, COLM, ICCV, ICLR, KDD, SIGIR, WWW, etc.