

RESEARCH INTERESTS

My research focuses on AI Agent & Large Language Models, with particular interests in Reinforcement Learning, Personalization, and Multi-modal Recommendation & Information Retrieval. I have been working on:

- Large Language Models & AI Agents: Leveraging LLMs for recommendation and information retrieval tasks
- Reinforcement Learning: Decision transformers, multi-objective optimization, and policy exploration for recommender systems
- Personalization: User preference modeling and personalized content generation
- Multi-modal Learning: Cross-modal retrieval, video understanding, and multi-modal recommendation systems

EDUCATION

University of Glasgow, Glasgow, UK Oct 2021 - Dec 2025
Ph.D., Computing Science
Supervisor: [Prof Joemon M. Jose](#)

Xi'an JiaoTong University, Xi'an, China Sep 2018 - June 2021
M.S., Software Engineering

Dalian University of Technology, Dalian, China Sep 2014 - June 2018
B.S., Software Engineering(Major)
B.S., English(Minor)

EXPERIENCE

Amazon, Seattle, US Jul. 2025 - Oct. 2025
Applied Scientist Intern; Project: Personalised Video Moment Recommendation

- Developed personalized video moment recommender systems using real-world customer-video moment interaction data from Amazon product videos.
- Designed a two-stage progressive architecture: personalized video recommendation followed by personalized video moment recommendation within individual videos; Both customer and video models leverage CLIP embeddings as the foundation for cold-start user adaptation.
- Conducted a comprehensive user study with 100 real customers, evaluating the system across 9 metrics, achieving significant improvements in novelty and moment usefulness.

University of Glasgow, Glasgow, UK Dec. 2022 - Jan. 2025
Teaching Assistant; Courses: Artificial Intelligence, Machine Learning

- Responsible for teaching and lab instruction for master's and senior undergraduate students, including coursework design, grading, and academic mentoring.
- Focused on helping students master theoretical foundations of Machine Learning and Reinforcement Learning, with in-depth guidance on their applications in real-world projects.

Tencent, Shenzhen, China Dec. 2021 - May 2022
Research Intern; Project: Mixture-of-Modality Feedback for Transferable Recommender Systems

- Developed transferable large-scale recommender systems trained on 10 million user feedback from QQ Browser news platform.
- Content represented using multi-modal features: textual titles for news articles and visual thumbnails for videos; The model achieves effective cold-start recommendation performance across diverse domains, including successful deployment on Tencent News.

MAIN PUBLICATIONS

[Conferences/Journals](#)

○ *Reinforcement Learning-based Recommender Systems with Large Language Models for State Reward and Action Modeling*

Jie Wang, Alexandros Karatzoglou, Ioannis Arapakis, Joemon Jose

The 47th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2024, Full Paper)

- *Large Language Model driven Policy Exploration for Recommender Systems*
Jie Wang, Alexandros Karatzoglou, Ioannis Arapakis, Joemon Jose
The 18th ACM International Conference on Web Search and Data Mining (WSDM 2025, Full paper)
- *Beyond Accuracy: Decision Transformers for Reward-driven Multi-objective Recommendations*
Jie Wang, Alexandros Karatzoglou, Ioannis Arapakis, Joemon Jose, Xuri Ge
IEEE Transactions on Knowledge and Data Engineering (TKDE)
- *Sparks of Surprise: Multi-objective Recommendations with Hierarchical Decision Transformers for Diversity, Novelty, and Serendipity*
Jie Wang, Alexandros Karatzoglou, Ioannis Arapakis, Xin Xin, Xuri Ge, Joemon Jose
33rd ACM International Conference on Information and Knowledge Management (CIKM 2024, Full Paper)
- *TransRec: Learning Transferable Recommendation from Mixture-of-Modality Feedback*
Jie Wang, Fajie Yuan, Mingyue Cheng, Joemon M. Jose, Chenyun Yu, Beibei Kong, Zhijin Wang, Bo Hu, Zang Li
The 8th APWeb-WAIM joint international conference on Web and Big Data (APWebWAIM 2024, Full Paper)
- *Empowering Legal Citation Recommendation via Efficient Instruction-Tuning of Pre-trained Language Models*
Jie Wang, Kanha Bansal, Ioannis Arapakis, Xuri Ge, Joemon M. Jose
46th European Conference on Information Retrieval (ECIR 2024, Full Paper)

Under Review

- *Query Decomposition Filtering for Zero-shot Composed Video Retrieval*
Jie Wang, Alexandros Karatzoglou, Ioannis Arapakis, Yabin Wang, Joemon Jose
Under Review
- *PDiT-GIM: A Two-Stage Diffusion Framework for Personalized Preference Generation and Decoding*
Jie Wang, Alexandros Karatzoglou, Ioannis Arapakis, Joemon Jose
Under Review

Work in Progress

- *Personalized Video Moment Recommendation*
Jie Wang

Co-authors

- *IISAN: Efficiently Adapting Multimodal Representation for Sequential Recommendation with Decoupled PEFT*
Junchen Fu, Xuri Ge, Xin Xin, Alexandros Karatzoglou, Ioannis Arapakis, **Jie Wang**, Joemon M. Jose
The 47th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2024, Full Paper)
- *Capturing the Spectrum of Social Media Conflict: A Novel Multi-objective Classification Model*
Oliver Warke, Joemon M. Jose, Jan Breitsohl, **Jie Wang**
The 10th ACM SIGIR / The 14th International Conference on the Theory of Information Retrieval (ICTIR 2024, Full Paper)
- *3SHNet: Boosting Image-Sentence Retrieval via Visual Semantic-Spatial Self-Highlighting*
Xuri Ge, Songpei Xu, Fuhai Chen, **Jie Wang**, Guoxin Wang, Shan An, Joemon M. Jose
Information Processing & Management (IP&M 2024)
- *Exploring adapter-based transfer learning for recommender systems: Empirical studies and practical insights*
Junchen Fu, Fajie Yuan, Yu Song, Zheng Yuan, Mingyue Cheng, Shenghui Cheng, Jiaqi Zhang,

Jie Wang, Yunzhu Pan

The 17th ACM International Conference on Web Search and Data Mining (WSDM 2024, Full Paper)

◦ *NineRec: A Benchmark Dataset Suite for Evaluating Transferable Recommendation*

Jiaqi Zhang, Yu Cheng, Yongxin Ni, Yunzhu Pan, Zheng Yuan, Junchen Fu, Youhua Li,

Jie Wang, Fajie Yuan

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI 2024, Special Issue)

MAIN HONORS & REWARDS

WSDM Student Travel Grant, ACM Grant (2025)

Excellent Graduate, Xi'an JiaoTong University (2021)

Excellent New Postgrad Scholarship, Xi'an JiaoTong University (2018-2020)

National Encouragement Scholarship, Dalian University of Technology (2016)

Undergrad Scholarship, Dalian University of Technology (2015-2017)

TEACHING

Master Thesis Supervision(2023 -24)

Teaching Assistant, University of Glasgow (2023 -24)

COMPSCI2001 Introduction to Object-Oriented Programming, Level 2

Teaching Assistant, University of Glasgow (2023 -24)

COMPSCI1018 Computing Science 1S - Computing Systems, Level 1

Teaching Assistant, University of Glasgow (2022 - 23; 2023 - 24)

COMPSCI4077 Web Science, MSc Level

Teaching Assistant, University of Glasgow (2022 -23)

ACADEMIC ACTIVITIES

Oral Presentations

CIKM 2024 Oral Presentation, Boise, Idaho, USA

Conference Presentations

WSDM 2025 Presentation, Hannover, Germany

Lectures

Machine Learning and Deep Learning Overview, Jan 2025

Applications of ML and DL, Jan 2025

Reviewer

ICLR, WWW, SIGIR, CIKM, WSDM, PAMI, AACL, etc.