

## 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, AAAI, etc.