

Fanzhe Meng

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🎓 Education Background

University of Electronic Science and Technology of China,

2022– 2026

Bachelor of Software Engineering("Internet +")

GPA: 3.98 / 4.0, Academic Ranking: 1 / 86, Comprehensive Ranking: 1 / 86

CET-6: 560, CET-4: 596

📄 Publications

Search-Based Interaction For Conversation Recommendation via Generative Reward Model Based Simulated User

In *Proceedings of the 48th International ACM SIGIR Conference on Research and Development in Information Retrieval. (SIGIR 2025, full paper)*

Xiaolei Wang, Chunxuan Xia, Junyi Li, Fanzhe Meng, Lei Huang, Jinpeng Wang, Wayne Xin Zhao, Ji-Rong Wen.

🏢 Research Internship

- **Key words** : LLM, Conversational Recommender System (CRS), Instruction Tuning, Agent

CoT-Based Analysis For Joint Modeling of Dialogue And Sequence Recommendation

- Plan for CIKM 2025, in the Revision Stage
- **Motivation**: Traditional CRS struggles to uniformly model interactions within long sequences, which limits the performance of recommendation systems in general ability and cold start scenarios.
- **Method**: We propose a unified modeling framework centered on **chain-of-thought** preference summarization. User preferences are extracted using LLMs, with format alignment enhanced via supervised fine-tuning (**SFT**). To mitigate hallucination issues, we introduce a **self-distillation** strategy using Direct Preference Optimization (**DPO**). For the recommendation task, we adapt a Deep Structured Semantic Model (**DSSM**) built upon the GTE encoder, enabling cold-start recommendation and interest transfer modeling through structured retrieval strategies.
- **Results**: Our method achieves improvements on the ReDial dataset, outperforming traditional sequential recommendation models such as SASRec, and it yields substantial gains in key metrics including Recall and NDCG.

Search-Based Interaction For Conversation Recommendation via Generative Reward Model Based Simulated User (SIGIR 2025)

- **Motivation**: Current CRSs struggle to effectively model user preferences under sparse dialog contexts, limiting their ability to provide accurate recommendations within a limited number of interactions.
- **Method**: We propose GRSU, a **generative reward-based simulated user** framework designed to guide CRSs through multi-turn interactive feedback. It incorporates two levels of feedback:
 - (1) item-level ratings.
 - (2) fine-grained attribute-based preference evaluations. To train the simulated user, we leverage instruction tuning on LLMs. Furthermore, we integrate **beam-search** to control user behavior diversity and employ an efficient candidate reranking strategy to enhance final recommendation quality.
- **Results**: Extensive experiments on multiple conversational recommendation benchmarks demonstrate the effectiveness, efficiency, and transferability of our proposed approach.

MemoCRS: Memory-enhanced Sequential Conversational Recommender Systems with Large Language Models (Reproduction)

- **Motivation:** This work introduces user-specific and global memory modules to enable LLMs to incorporate both historical preferences and collaborative knowledge in conversational recommendation.
- **Contribution:**
 - (1) Reproduced the expert model (UCCR) to generate high-quality recommendation candidates for CRS.
 - (2) Contributed to an asynchronous inference framework based on vLLM, supporting efficient inference and intergration of key components such as memory updating, inference guidance, and cold-start evaluation.
- **Results:** Successfully reproduced the complete MemoCRS pipeline on TG-ReDial and ReDial datasets, verifying its effectiveness.

🔧 Engineering Project

Job Hunter: A LLM and Knowledge Graph Powered Job Recommendation System for College Students

Role: Project Leader

Project website: <https://github.com/Mengfanzhe0127/JobHunter>

Overview: we designed a job recommendation system for college students, combining LLMs, knowledge graphs, and scalable backend infrastructure. The system is built for real-world deployment.

Contribution:

- **Recommendation Design:** Constructed a Neo4j-based job knowledge graph and implemented Minihash and MinihashForest for efficient graph-based job retrieval. Leveraged the ChatGLM-130B model to generate personalized capability assessments for job seekers.
 - **Scalable Infrastructure:** Built a distributed system using Kubernetes, Docker, and Redis, capable of handling concurrent access from over 1,000 users.
 - **Service Architecture:** Designed a centralized-node decoupled architecture, with containerized services and resource monitoring via Kubernetes, enabling efficient server resource management.
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DaiJob: Mobile-Based Personal Loan Risk Management System

Role: Project Leader

Overview: A mobile-enabled financial risk control system for personal loan applications, with DL, LLMs, and mobile/web frontends to provide end-to-end solutions for loan assessment, monitoring, and collection.

Contribution:

- **Risk Modeling Pipeline:** a multi-stage risk control pipeline, including a pre-loan scoring system using LightGBM, XGBoost, CatBoost, in-loan credit scoring refinement based on banking transaction data, and post-loan collection risk assessment.
- **LLM-powered Customer Service:** Fine-tuned the Qwen2.5-7B-Instruct model on a financial Q&A dataset to develop an intelligent customer service interface, improving user interaction and operational efficiency.

🏆 Scholarships and Honors

National Scholarship	2024
National Second Prize, China College Students' Service Outsourcing Innovation and Entrepreneurship Competition	2024
National Third PrizeNational English Competition for College Students (NECCS)	2023
First-Class Academic Scholarship, UESTC	2023,2024
Vestas Corporate Scholarship	2023