CHUAN MENG

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RESEARCH INTERESTS

I have been actively researching two core areas in AI: Natural Language Processing (NLP) and Information Retrieval (IR).

Specifically, my work focuses on leveraging large language models (LLMs) to build agentic information access systems (a.k.a. deep research systems).

EDUCATION

University of Amsterdam, The Netherlands   *October 2021 - June 2025*
Ph.D. in Artificial Intelligence
Supervisors: Prof. dr. Maarten de Rijke and dr. Mohammad Aliannejadi
PhD thesis: Optimizing Agentic Workflows for Information Access [pdf]

Shandong University, China   *September 2018 - June 2021*
Master in Computer Science and Technology
Supervisors: Prof. dr. Zhumin Chen, dr. Pengjie Ren, and dr. Zhaochun Ren
Master's thesis: Research on Knowledge-Grounded Non-Task-Oriented Conversational System [pdf]

Shandong Normal University, China   *September 2014 - June 2018*
Bachelor in Electronic Commerce

WORK EXPERIENCE

The University of Edinburgh, United Kingdom   *September 2025 - present*
Postdoctoral Researcher (Research Associate), focusing on agentic information access
Funded by the Turing AI Acceleration Fellowship
Supervisor: Dr. Jeff Dalton.

Amazon, United Kingdom   *August 2024 - January 2025*
Applied Scientist Intern, focusing on LLM-powered proactive conversational agents
Manager: Dr. Gabriella Kazai. Mentor: Dr. Francesco Tonolini.

PUBLICATIONS

As of January 2026, I have 600+ citations (Google Scholar) with an H-index of 14. I have authored papers published in proceedings/journals, such as ACL, EMNLP, NAACL, SIGIR, CIKM, AAAI, ECIR, and TOIS.

1. **Re-Rankers as Relevance Judges**
   Chuan Meng, Jiqun Liu, Mohammad Aliannejadi, Fengran Mo, and Maarten de Rijke
   Under review
   pdf, code
2. **Generative Retrieval with Few-shot Indexing**
   Arian Askari[*], **Chuan Meng**[*] (co-first author), Mohammad Aliannejadi, Zhaochun Ren, Evangelos Kanoulas, and Suzan Verberne
   ECIR 2026: The 48th European Conference on Information Retrieval
   pdf

3. **Towards Adaptive Personalized Conversational Information Retrieval**
Fengran Mo, Yuchen Hui, Yuxing Tian, Zhaoxuan Tan, **Chuan Meng**, Zhan Su, Kaiyu Huang, Jian-Yun Nie
CIKM 2025: The 34th ACM International conference on Information and Knowledge Management
pdf

4. **UniConv: Unifying Retrieval and Response Generation for Large Language Models in Conversations**
Fengran Mo, Yifan Gao, **Chuan Meng**, Xin Liu, Zhuofeng Wu, Kelong Mao, Zhengyang Wang, Pei Chen, Zheng Li, Xian Li, Bing Yin, Meng Jiang
ACL 2025: The 63rd Annual Meeting of the Association for Computational Linguistics
pdf

5. **Bridging the Gap: From Ad-hoc to Proactive Search in Conversations**
Chuan Meng, Francesco Tonolini, Fengran Mo, Nikolaos Aletras, Emine Yilmaz, and Gabriella Kazai
SIGIR 2025: The 48th International ACM SIGIR Conference on Research and Development in Information Retrieval
pdf, code

6. **Query Performance Prediction using Relevance Judgments Generated by Large Language Models**
Chuan Meng, Negar Arabzadeh, Arian Askari, Mohammad Aliannejadi, and Maarten de Rijke
TOIS: ACM Transactions on Information Systems
pdf, code

7. **SOLID: Self-seeding and Multi-intent Self-instructing LLMs for Generating Intent-aware Information-Seeking Dialogs**
Arian Askari, Roxana Petcu, **Chuan Meng**, Mohammad Aliannejadi, Amin Abolghasemi, Evangelos Kanoulas, and Suzan Verberne.
NAACL 2025: The 2025 Annual Conference of the Nations of the Americas Chapter of the Association for Computational Linguistics
pdf, code

8. **Zero-Shot and Efficient Clarification Need Prediction in Conversational Search**
Lili Lu, **Chuan Meng**, Federico Ravenda, Mohammad Aliannejadi and Fabio Crestani
ECIR 2025: The 47th European Conference on Information Retrieval
pdf, code

9. **Improving the Re-Usability of Conversational Search Test Collections**
Zahra Abbasiantaeb, **Chuan Meng**, Leif Azzopardi and Mohammad Aliannejadi
ECIR 2025: The 47th European Conference on Information Retrieval
pdf, code

10. **Can We Use Large Language Models to Fill Relevance Judgment Holes?**
Zahra Abbasiantaeb, **Chuan Meng**, Leif Azzopardi, Mohammad Aliannejadi
LLM4Eval: The First Workshop on Large Language Models (LLMs) for Evaluation in Information Retrieval
pdf, code

11. **Ranked List Truncation for Large Language Model-based Re-Ranking**
Chuan Meng, Negar Arabzadeh, Arian Askari, Mohammad Aliannejadi, and Maarten de Rijke.
SIGIR 2024: The 47th International ACM SIGIR Conference on Research and Development in Information Retrieval
pdf, code

12. **Query Performance Prediction for Conversational Search and Beyond**
Chuan Meng
SIGIR 2024: The 47th International ACM SIGIR Conference on Research and Development in Information Retrieval
pdf

13. **LLM-based Retrieval and Generation Pipelines for TREC Interactive Knowledge Assistance Track (iKAT) 2023.**
    Zahra Abbasiantaeb, **Chuan Meng**, David Rau, Antonis Krasakis, Hossein A. Rahmani, and Mohammad Aliannejadi.
    TREC 2023: The Thirty-Second Text REtrieval Conference (**Our submitted runs ranked 1st**)
    pdf

14. **Expand, Highlight, Generate: RL-driven Document Generation for Passage Reranking**
    Arian Askari, Mohammad Aliannejadi, **Chuan Meng**, Evangelos Kanoulas, and Suzan Verberne
    EMNLP 2023 (main conference): The 2023 Conference on Empirical Methods in Natural Language Processing
    pdf, code

15. **System Initiative Prediction for Multi-turn Conversational Information Seeking**
    Chuan Meng, Mohammad Aliannejadi, and Maarten de Rijke
    CIKM 2023: The 32nd ACM International Conference on Information and Knowledge Management
    pdf, code

16. **Query Performance Prediction: From Ad-hoc to Conversational Search**
    Chuan Meng, Negar Arabzadeh, Mohammad Aliannejadi, and Maarten de Rijke
    SIGIR 2023: The 46th International ACM SIGIR Conference on Research and Development in Information Retrieval
    pdf, code

17. **Performance Prediction for Conversational Search Using Perplexities of Query Rewrites**
    Chuan Meng, Mohammad Aliannejadi, and Maarten de Rijke
    QPP++ 2023: Query Performance Prediction and Its Evaluation in New Tasks Workshop co-located with The 45th European Conference on Information Retrieval
    pdf, code

18. **Initiative-Aware Self-Supervised Learning for Knowledge-Grounded Conversations**
    Chuan Meng, Pengjie Ren, Zhumin Chen, Zhaochun Ren, Tengxiao Xi, and Maarten de Rijke
    SIGIR 2021: The 44th International ACM SIGIR Conference on Research and Development in Information Retrieval
    pdf

19. **Conversations Powered by Cross-Lingual Knowledge**
    Weiwei Sun[*], **Chuan Meng**[*] (co-first author), Qi Meng, Zhaochun Ren, Pengjie Ren, Zhumin Chen, and Maarten de Rijke
    SIGIR 2021: The 44th International ACM SIGIR Conference on Research and Development in Information Retrieval
    pdf, code

20. **DukeNet: A Dual Knowledge Interaction Network for Knowledge-Grounded Conversation**
    Chuan Meng, Pengjie Ren, Zhumin Chen, Weiwei Sun, Zhaochun Ren, Zhaopeng Tu, and Maarten de Rijke
    SIGIR 2020: The 43rd International ACM SIGIR Conference on Research and Development in Information Retrieval
    pdf, code

21. **RefNet: A Reference-aware Network for Background Based Conversation**
    Chuan Meng, Pengjie Ren, Zhumin Chen, Christof Monz, Jun Ma, and Maarten de Rijke
    AAAI 2020: The Thirty-Fourth AAAI Conference on Artificial Intelligence.
    pdf, code

ACADEMIC SERVICE

- Workshop organization:
  - **QPP++2025: Query Performance Prediction and its Applications in the Era of Large Language Models**

Chuan Meng, Guglielmo Faggioli, Mohammad Aliannejadi, Nicola Ferro, and Josiane Mothe
ECIR 2025: The 47th European Conference on Information Retrieval
6th–10th April 2025, Lucca, Italy
pdf, website

- Program committee member: ACL 2023, EMNLP 2023–2021, SIGIR 2025–2024, COLING 2025, 2022 & 2020, CIKM 2025–2022, The Web Conf 2025–2024, WSDM 2025–2022, ECIR 2025–2024, ICTIR 2025 & 2023, SIGKDD 2022, ECML/PKDD 2022–2021, AAAI 2021
- ACL Rolling Review (ARR) reviewer 2025
- Journal reviewer: Transactions on Information Systems (TOIS), Information Processing and Management (IP&M)

TEACHING & SUPERVISION

- Tutorial organization:
  - **Conversational Search: From Fundamentals to Frontiers in the LLM Era**
    Fengran Mo, **Chuan Meng**, Mohammad Aliannejadi, and Jian-Yun Nie
    SIGIR 2025: The 48th International ACM SIGIR Conference on Research and Development in Information Retrieval
    13th–17th July 2025, Padua, Italy
    pdf, slides, website
  - **Query Performance Prediction: Theory, Techniques and Applications**
    Negar Arabzadeh, **Chuan Meng**, Mohammad Aliannejadi, and Ebrahim Bagheri
    WSDM 2025: The 18th ACM International Conference on Web Search and Data Mining
    10th–14th March 2025, Hanover, Germany
    pdf, slides
  - **Query Performance Prediction: Techniques and Applications in Modern Information Retrieval**
    Negar Arabzadeh, **Chuan Meng**, Mohammad Aliannejadi, and Ebrahim Bagheri
    SIGIR-AP 2024: The 2nd ACM SIGIR-AP conference
    9th–12th December 2024, Tokyo, Japan
    pdf, slides
  - **Query Performance Prediction: From Fundamentals to Advanced Techniques**
    Negar Arabzadeh, **Chuan Meng**, Mohammad Aliannejadi, and Ebrahim Bagheri
    ECIR 2024: The 46th European Conference on Information Retrieval
    24th–28th March 2024, Glasgow, UK
    pdf, slides
- Lecturer
  - **Course**: Recommender Systems (about **50** students)
    Lecture: Sequential and Large Language Model-based Recommender Systems
    Institution: University of Amsterdam
    Year: June 2025
    My responsibilities: Course design and lecture delivery
    slides
  - **Guest Lecture**: Conversational Search: From Fundamentals to Frontiers in the LLM Era (about **40** undergraduate students)
    Institution: University of Massachusetts Amherst (UMass Amherst)
    Host: Razieh Negin Rahimi
    Year: October 2025
    slides
- Teaching assistant
  - **Course**: Information Retrieval (about **60** students)
    Institution: University of Amsterdam
    Year: 2023

My responsibilities: project design and grading
- **Course**: Information Retrieval (about **60** students)
  Institution: University of Amsterdam
  Year: 2022
  My responsibilities: project design and grading
- **Course**: Information Retrieval (about **60** students)
  Institution: Shandong University
  Year: 2020
  My responsibilities: assignment design, project design and grading
- **Course**: Natural Language Processing (about **70** students)
  Institution: Shandong University
  Year: 2019
  My responsibilities: assignment design, project design and grading
- PhD mentorship (Research-oriented): Lili Lu, Università della Svizzera italiana (USI), with Prof. dr. Fabio Crestani

INVITED TALKS

- **Opportunities and Challenges of LLMs in Information Retrieval**
  21 October 2024, University of Glasgow
  Host: Iadh Ounis, professor at the University of Glasgow
  slides, post
- **Predicting the Right Moment for System Initiative in Mixed-Initiative Conversational Search**
  26 August 2024, Amazon (London)
  Host: Gabriella Kazai, principal applied scientist at Amazon
  slides
- **Opportunities and Challenges of LLMs in Information Retrieval**
  14 August 2024, Objective, Inc.
  Host: Pablo Mendes, co-founder & CEO at Objective, Inc.
  slides
- **Opportunities and Challenges of LLMs in Information Retrieval**
  17 April 2024, Amazon (Seattle)
  Host: Shervin Malmasi, applied science manager at Amazon
  slides
- **System Initiative Prediction and Query Performance Prediction for Conversational Information Seeking**
  3 Nov 2023, University College London (UCL)
  Host: Xi Wang, lecturer at the University of Sheffield
  slides, post
- **Query Performance Prediction for Conversational Search**
  18 May 2023, University of Glasgow
  Host: Iadh Ounis, professor at the University of Glasgow
  slides, post

ADMINISTRATION ACTIVITIES

- Manager for the IRLab LinkedIn account, 2025
- Webmaster for the IRLab website, 2023–2024
- Chair for internal seminars at IRLab, 2023
- Lead organizer of the IRLab BBQ event, 2023

RESEARCH FUNDING PROPOSALS

During my master's at Shandong University, I was involved in drafting the methodology sections for three research funding proposals.

- **Development of an AI-assisted Writing Robot System Based on News Reporting Scenarios**
  National Key Research and Development Program project (Project No.: 2020YFB1406700)
- **Research on Explainable Medical Health Question-Answering Technology Based on Multi-Source Heterogeneous Data Fusion**
  National Natural Science Foundation of China (NSFC) project (Project No.: 61972234)
- **Research on Conversational Recommendation Systems and Functional Enhancements Based Primarily on Implicit Feedback Data**
  National Natural Science Foundation of China (NSFC) project (Project No.: 62072279)

SCHOLARSHIPS & AWARDS

- Excellent Master's Thesis of Shandong Province, 2022
- National Scholarship (China), 2020/2016
- Outstanding Graduates of Shandong Province, 2021/2017
- SIGIR Student Travel Grant, 2020
- Scholarship for Outstanding Postgraduate Cadres of Shandong University, 2020/2019
- AAAI Student Scholar Scholarship, 2019
- Academic Scholarship for Master Students of Shandong University, 2019
- Outstanding Students of Shandong Province, 2017

RESOURCES

I have curated the following resources:

- a code repository (**over 2,500 visitors**) providing scripts for fine-tuning open-source LLMs to generate relevance judgments, within a Python/PyTorch framework.
- a code repository (**over 3,600 visitors**) providing a comprehensive implementation of query performance prediction (QPP) methods, within a unified Python/PyTorch framework.
- a code repository (**over 1,400 visitors**) offering a comprehensive implementation of ranked list truncation methods, within a unified Python/PyTorch framework.
- a paper reading list (**over 260 stars**) on knowledge-grounded dialogue systems.

Also, I have contributed to key open-source toolkits in information retrieval, including:

- Pyserini (v0.19.2), a Python toolkit for reproducible information retrieval research.
- Tevatron, a flexible and efficient Python toolkit for training and inference of neural retrieval models.

REFERENCES

Dr. Jeff Dalton
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The University of Edinburgh
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