Sajad Ebrahimi

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Summary

- Graduate researcher in **NLP and Information Retrieval** with 6+ peer-reviewed publications (TIST, SIGIR, ECIR, CIKM); focus on Generative approaches for ranking, Learning to Rank, Diffusion Models, and Automated Scholarly Peer Review. For the latest list of my publications, please refer to my Google Scholar.
- Over 5 years of hands-on coding experience, spanning roles as a Data Scientist and a Software Engineer, specializing in designing, building, and deploying production-scale software and machine learning systems. Advanced proficiency in PyTorch, Django, Accelerate, Transformers, and related tools, with extensive experience delivering production-grade machine learning solutions.

Education

M.A.Sc. in Computer Engineering, University of Guelph   Guelph, Canada | 2023 - 2025
Supervisors: Dr. Fattane Zarrinkalam and Dr. Ebrahim Bagheri
Affiliated with Vector Institute for Artificial Intelligence as Faculty Affiliate Researcher

- **GPA**: 89/100
- **Thesis**: DiffusionRank: A Denoising Diffusion Framework for Learning to Rank

B.Sc. in Computer Engineering, Ferdowsi University of Mashhad   Mashhad, Iran | 2018 - 2023

Research Experience

Research Intern, Toronto Metropolitan University   Fall 2022 - Summer 2023
Supervisor: Ebrahim Bagheri

- Proposed a novel Query Performance Prediction (QPP) framework using Nearest Neighbor Queries, achieving up to 4% improvement in Kendall's τ on benchmark datasets.
- Worked on improving the retrievers by utilizing Entity Linking; Used TagMe to extract the entities.

Resarch Assistant, Ferdowsi University of Mashhad   Summer 2021 - Summer 2022
Supervisor: Behshid Behkamal

- Created a structured dataset by designing a data format with 19 key course features and developing a scraper to collect course information from top-ranked universities' catalogs.

Work Experience

Data Scientist, Reviewerly   Toronto, Canada | Nov 2023 -

- Built and now maintain a Milvus-backed index of 260M+ papers and 96M+ authors, delivering sub-second similarity search that powers Reviewerlys matching engine, adopted by two peer-review venues and one grant agency in its first release cycle.
- Parallelized a keyphrase extraction model across 6 GPUs to process 200M records, accelerating the extraction process by 10x.

Data Analyst, Kava Investment Analysis   Tehran, Iran | Sept 2021 - Aug 2022

- Built a scalable web scraper that collected data from 4+ sources across the Tehran Stock Exchange, reducing manual data collection time by 70%.
- Designed and implemented a PostgreSQL data warehouse: defined tables, indexes, and ETL pipelines for equities, bonds, and derivatives, which reduced query latency by 80%.

Software Engineer Intern, Zima & Iliasystem Co.   Mashhad, Iran | Aug 2019 - Feb 2021
- Acquired essential knowledge in backend development, REST API implementation, and database design by contributing to 3 internal tools and APIs used by a team of 10+ developers.
- Learned the fundamentals of web development and built 2 internal-facing pages using HTML, CSS, and JavaScript.

Publications

TIST 2025	Bigdeli A, **Ebrahimi S**, Arabzadeh N, Salamat S, SeyedSalehi S, Khodabakhsh M, Zarrinkalam F, Bagheri E. Query Performance Prediction Using Neural Query Space Proximity. ACM Transactions on Intelligent Systems and Technology.
CIKM 2025	**Ebrahimi S**, Sadeghian S, Ghorbanpour A, Arabzadeh N, Salamat S, Li M, Le HS, Bashari M, Bagheri E. RottenReviews: Benchmarking Review Quality with Human and LLM-Based Judgments. In Proceedings of the 34th ACM International Conference on Information and Knowledge Management 2025 Nov 10 (pp. 5642-5649).
CIKM 2025	Arabzadeh N, Ebrahimi S, Ghorbanpour A, Sadeghian S, Salamat S, Li M, Son Le H, Bashari M, Bagheri E. Building Trustworthy Peer Review Quality Assessment Systems. In Proceedings of the 34th ACM International Conference on Information and Knowledge Management 2025 Nov 10 (pp. 6863-6864).
SIGIR 2025	Soleimany S, **Ebrahimi S**, Seyedsalehi S, Zarrinkalam F, Bagheri E. Reinforcement Learning for Effective Few-Shot Ranking. In Proceedings of the 48th International ACM SIGIR Conference on Research and Development in Information Retrieval 2025 Jul 13 (pp. 2956-2961).
ECIR 2025	**Ebrahimi S**, Salamat S, Arabzadeh N, Bashari M, Bagheri E. exHarmony: Authorship and Citations for Benchmarking the Reviewer Assignment Problem. In European Conference on Information Retrieval 2025.
MLJ 2024	Seyedsalehi S, Salamat S, Arabzadeh N, **Ebrahimi S**, Zihayat M, Bagheri E. Gender disentangled representation learning in neural rankers. Machine Learning. 2025 May;114(5):1-33.
CIKM 2024	Arabzadeh N, **Ebrahimi S**, Salamat S, Bashari M, Bagheri E. Reviewerly: modeling the reviewer assignment task as an information retrieval problem. In Proceedings of the 33rd ACM International Conference on Information and Knowledge Management 2024 Oct 21 (pp. 5554-5555).
ECIR 2024	**Ebrahimi S**, Khodabakhsh M, Arabzadeh N, Bagheri E. Estimating query performance through rich contextualized query representations. In European Conference on Information Retrieval 2024 (pp. 49-58).

Presentations and Talks

- RottenReviews: Benchmarking Review Quality with Human and LLM-Based Judgments, *CIKM 2025*   Nov 2025
- Estimating Query Performance Through Rich Contextualized Query Representations, *QPP++ 2025*   Apr 2025
- It Takes a Team to Triumph: Collaborative Expert Finding in Community QA Networks, *SIGIR-AP 2024*   Dec 2024
- Reviewerly: A High Quality Peer Reviewer Suggestion Application, *OpenAlex Virtual User Conference*   May 2024
- Intro to Neural Information Retrieval, *Special Topics in Information Retrieval, University of Guelph*   Nov 2023

Skills

Languages: Python, C, C++

Databases: PostgreSQL, MongoDB, SQLite, MySQL, Milvus

Misc: Git, Docker, Elasticsearch, Nginx, GraphQL, HTML/CSS, LaTeX, Unix-based OS

Selected Projects

[QR Code Ticket System](#)   2022

An app that generates a QR code for users and provides a QR reader for the receptionist to verify each ticket. This project is open source and has received 34 stars on GitHub.

Awards and Honors

- Braithwaite Travel Grant to attend COLM 2025 Conference (585 CAD)   2025
- Braithwaite Travel Grant to attend ECIR 2025 Conference (3,500 CAD)   2025
- ECIR Student Support Grant to attend ECIR 2025 Conference (330 EUR)   2025
- Braithwaite Travel Grant to attend SIGIR-AP 2024 Conference (415 CAD)   2024
- Braithwaite Travel Grant to attend ACML 2024 Conference (2,600 CAD)   2024
- Braithwaite Travel Grant to attend ECIR 2024 Conference (2,800 CAD)   2024
- College of Engineering Deans Graduate Entrance Scholarship, UoGuelph (5,000 CAD)   2023
- Entrance Award in Recognition of Student Excellence in the College of Engineering, UoGuelph (12,000 CAD)   2023
- Ranked amongst the top 1% of 144k participants in the Nationwide Entrance exam of Iranian universities   2018

Academic Services

- **Co-organizer**: CIKM Workshop on Proactive Conversational Information Seeking with Large Language Models ([ProActLLM](#)), 2025
- **Program Committee**: WSDM 2026, WWW 2026, ECIR 2026, TOIS 2025, SIGIR 2025, ICTIR 2025, LLMReasoning@ICLR 2025, COLING 2025

Teaching Experience

Teacher Assistant, Ferdowsi University of Mashhad   Iran | 2019 - 2023

- Information Retrieval, Fall 2022 - Winter 2023
- Data Mining, Winter 2022
- Database, Fall 2021 - Winter 2022
- Computer Architecture, Fall 2020 - Winter 2021
- Discrete Mathematics, Winter 2020
- Object Oriented Programming, Winter 2020
- Fundamentals of Computer Programming, Fall 2019

Middle School Instructor, Andishe Iranian School   Iran | 2020 - 2021

- Taught Python programming fundamentals to students in grades 7 through 10, covering basic concepts such as variables, loops, conditionals, and functions, and fostering problem-solving and logical thinking skills.

References

References will be available upon request.