Sajad Ebrahimi

sadjadeb@gmail.com | LinkedIn | Github | Homepage | Google Scholar | Twitter | Toronto, ON

Research Interests

- Natural Language Processing
- Generative Ranking
- Information Retrieval
- Query Performance Prediction
- Deep Learning
- Reviewer Assignment Problem

Education

M.A.Sc. in Computer Engineering | University of Guelph — Canada | Fall 2023 -

- **CGPA**: 90/100
- **Thesis**: Diffusion Models Meet Learning-to-Rank: A Generative Revolution

B.Sc. in Computer Engineering | Ferdowsi University of Mashhad — Iran | Fall 2018 - Winter 2023

- **CGPA**: 81/100
- **Selected courses**: Fundamentals of Information Retrieval(A+), Data Mining(A+), Database(A+)

Research Experience

Graduate Research Assistant | University of Guelph — Fall 2023 -
Supervisors: Dr. Ebrahim Bagheri and Dr. Fattane Zarrinkalam
Affiliated with Vector Institute for Artificial Intelligence as Faculty Affiliate Researcher

- Enhancing the Query Performance Prediction (QPP) results by implementing a novel framework based on Nearest Neighbor Queries - Developing low-resource ranker based on Reinforcement Learning algorithms - Working on Generative Learning-to-Rank models inspired by DDPM idea - Conducting research on generative adversarial attacks on graphs

Research Intern | Toronto Metropolitan University — Fall 2022 - Summer 2023
Supervisor: Dr. Ebrahim Bagheri

- Improving dense retriever utilizing Entity Linking - Enhancing the performance of QPP models by enriching query representations, incorporating information from similar queries into the input.

Research Assistant | Ferdowsi University of Mashhad — Summer 2021 - Summer 2022
Supervisor: Dr. Behshid Behkamal

- Designing an effective data structure - Developing scrapers to find universities' course catalogs data - Text summarizing and Keyword extracting by state-of-the-art models

Work Experience

Data Scientist | Reviewerly — Toronto, Canada | Nov 2023 -

- Trained a model inspired by the Dense Retriever for the Reviewer Assignment Problem (RAP) task.
- Formulated a pipeline for clustering proposals and selecting an expert from the relevant pool for each cluster.

Data Analyst | Kava Tahlil — Tehran, Iran | Sept 2021 - Aug 2022

- Developed a scraper to gather data from various sources of the Tehran Stock Exchange and store it in MongoDB.
- Designed data models for different types of stocks and organized data.
- Recognized, analyzed, and interpreted trends and patterns in complex financial data.

Software Engineer Intern | Zima — Iran | Sept 2020 - Feb 2021

- Acquired essential knowledge in backend development, REST API implementation, and database design.

Web Developer Intern | Iliasystem Co. — Iran | Aug 2019 - Feb 2020

- Learned the fundamentals of Web development, Got familiar with HTML / CSS / JS.

Skills

Languages: Python, C, C++, Java

Python Frameworks and Packages:

- PyTorch, TensorFlow, Transformers, Pandas, NumPy, Matplotlib, SKlearn, NLTK, spaCy, Beir
- Django, Django Rest Framework, Flask, Fastapi
- Selenium, Pytest, Doctest, BeatifulSoup4

Databases: PostgreSQL, MongoDB, SQLite, MySQL, Milvus

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

Publications

exHarmony: Authorship and Citations for Benchmarking the Reviewer Assignment Problem — ECIR'25
S.Ebrahimi, S.Salamat, N.Arabzadeh, M.Bashari, E.Bagheri

Gender Disentangled Representation Learning in Neural Rankers — MLJ'24
Sh.SeyedSalehi, S.Salamat, N.Arabzadeh, **S.Ebrahimi**, M.Zihayat, E.Bagheri

Estimating Query Performance Through Rich Contextualized Query Representations — ECIR'24
S.Ebrahimi, M.Khodabakhsh, N.Arabzadeh, E.Bagheri

Reviewerly: Modeling the Reviewer Assignment Task as an Information Retrieval Problem — CIKM'24
N.Arabzadeh, **S.Ebrahimi**, S.Salamat, M.Bashari, E.Bagheri

Estimating Query Performance Using Neural Query Space Proximity — *TIST'24
A.Bigdeli, **S.Ebrahimi**, N.Arabzadeh, S.Salamat, Sh.SeyedSalehi, F.Zarrinkalam, E.Bagheri

* These works have been submitted and are under review.

Talks

- It Takes a Team to Triumph: Collaborative Expert Finding in Community QA Networks, *SIGIR-AP'24* — 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

Awards and Honors

- Braithwaite Travel Grant to attend SIGIR-AP'24 Conference (415 CAD) — 2024
- Braithwaite Travel Grant to attend ACML'24 Conference (2,600 CAD) — 2024
- Braithwaite Travel Grant to attend ECIR'24 Conference (2,800 CAD) — 2024
- University of Guelph College of Engineering Dean's Graduate Entrance Scholarship (5,000 CAD) — 2023
- Entrance Award in Recognition of Student Excellence in the College of Engineering (12,000 CAD) — 2023

Selected Projects

Neural Retriever utilizing Entities — 2023

A retrieval model that enriches the representation of the queries and passages by the representation of their entities.

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.

Academic Services

- PC Member, SIGIR 2025
- Reviewer, ICLR 2025
- Reviewer, COLING 2025

Last updated on Feb 12, 2025.