Negar Arabzadeh

EMAIL: ngr.arabzadeh@gmail.com
WEBSITE: https://www.negara.me

EDUCATION

CURRENT	PhD Candidate in Computer Science, GPA: 93/100
	University of Waterloo, Canada
	Supervisor: Dr. Charles L. A. Clarke
WINTER 2021	Thesis: Evaluation of Interactive Intelligent Systems in Generative Era
FALL 2019	Master of Applied Science in Electrical and Computer Engineering, GPA: 4.0/4.0
	Toronto Metropolitan University, Canada, Supervisor: Dr. Ebrahim Bagheri
FALL 2017	Thesis: "Neural Embedding-based Specificity Metrics for Query Performance Prediction"
SPRING 2017	Bachelor of Science in Electrical Engineering (Control Systems), GPA: 78/100
	Amirkabir University of Technology (Tehran Polytechnic), Iran
FALL 2012	Thesis: "Design and implementation of intelligent shopping cart"

RESEARCH INTERESTS

Information Retrieval	Conversational Search
Natural Language Processing	Responsible AI

INTERNSHIPS AND RESEARCH EXPERIENCE

FALL 2023	**Research Intern at Microsoft Research (MSR)**
	Conducting research on evaluation of LLM-based multi-agent systems
	Mentors: Julia Kiseleva, Ahmed H. Awadallah
FALL 2022	**Student Researcher at Google Brain**
	Conducting research on offline evaluation of text-to-image generation models
	Mentor: Fernando Diaz
WINTER 2023	**Organizer of NeurIPS 2022 IGLU Competition**
	Coordinating NLP task on Interactive Grounded Language Understanding within Collaborative Environments (IGLU). With the focus on when and what clarifying questions should intelligent systems ask when collaborating with humans.
SPRING 2022	Managing end-to-end processes, including human-annotated data curation, task design and evaluation formulation, attracting 30+ group of participants, etc.
FALL 2022	**Research Scientist at Spotify Research**
	Conducting research on offline evaluation of instant Search
WINTER 2022	Mentors: Ben Carterette, Claudia Hauff
SUMMER 2021	**Research Scientist Intern at Microsoft Research (MSR)**
	Conducting research on interactive user guidance on meeting exploration by generating and organizing questions from meetings in hierarchical structure as a questionnaire
	Mentors: Julia Kiseleva, Ahmed H. Awadallah, Milad Shokouhi

Awards and Honors

2023	Honoured to be invited to author a book for Foundations and Trends in Information Retrieval (FNTIR) on Gender bias in Information Retrieval (on going)
	Distinguished Referee at ACM International Conference on Information and Knowledge Management (CIKM 2023)
	David R. Cheriton graduate scholarship for scholastic excellence (20,000 CAD)
	SIGIR 2023 student travel award
	Talent travel bursary for Canadian AI conference 2023
2022	Best paper award at the 44th European Conference on Information Retrieval (ECIR 2022)
	Talent Travel bursary for Alberta Machine Intelligence Institute (Amii) AI Week
2021	Honoured to receive returning offer for Microsoft Research summer internship [Declined]
	Best Reviewer Award at ACM International Conference on Information and Knowledge Management (CIKM 2021)
	Provost doctoral entrance award for women at the university of Waterloo (5,000 CAD)
	University of Waterloo entrance scholarship (5,000 CAD)
2019	Runner-up in SOSCIP 3-Minute thesis competition at Advance Ontario
2017	Ryerson graduate development award (10,000 CAD)
2012	Granted exemption from the university entrance exam for B.Sc STEM majors due to outstanding achievements in robotic competitions.
2011	1st place at 3rd Khwarizmi International Award at junior soccer robots league
2010	Qualified and participated in 15th Robocup competition at junior soccer league
	1st place at 5th International IranOpen competition at junior soccer robots league
2009	1st place at 1st International AUT cup competition at pathfinder robots league
2008	Placed among 0.5% accepted students out of 60,000 participants in the NODET (National Organization for Development of Exceptional Talents)

Publications

SUMMARY: During last 5 year, I have published 3 journal papers, over 30 peer-reviewed conference papers and 4 workshop papers. As of November 2023, they have received 246 citations with H-index of 9.

EACL 2023	PREME: Preference-based Meeting Exploration through an Interactive Questionnaire. **Arabzadeh, N.** Ahmadvand, A. Kiseleva, J. Liu, Y. Awadallah, AH. Zhong, M. Shokouhi, M. In 17th Conference of the European Chapter of the Association for Computational Linguistics.
CIKM 2023	Noisy Perturbations for Estimating Query Difficulty in Dense Retrievers. **Arabzadeh, N.** Hamidi Rad, R. Khodabakhsh, M. and Bagheri, E. In 32th ACM International Conference on Information and Knowledge Management
CIKM 2023	Neural Disentanglement of Query Difficulty and Semantics. Salamat, S. **Arabzadeh, N.** Seyedsalehi, S. Bigdeli, A. Zihayat, M. and Bagheri, E. In 32th ACM International Conference on Information and Knowledge Management.
SIGIR 2023	Quantifying Ranker Coverage of Different Query Subspaces. **Arabzadeh, N.** Bigdeli, A. Hamidi Rad, R. and Bagheri, E. In 46th International ACM SIGIR Conference on Research and Development in Information Retrieval.
SIGIR 2023	Query Performance Prediction: From Ad-hoc to Conversational Search. Meng, C. **Arabzadeh, N.** Aliannejadi, M. de Rijke M. In 46th International ACM SIGIR Conference on Research and Development in Information Retrieval.

SIGIR 2023	**A Preference Judgment Tool for Authoritative Assessment.** Seifikar, M. Nhi L. **Arabzadeh, N.** Smucker M. and Clarke C. In 46th International ACM SIGIR Conference on Research and Development in Information Retrieval.
ICTIR 2023	**A is for Adele: An Offline Evaluation Metric for Instant Search.** **Arabzadeh, N.** Kmet, O. Carterette, B. Clarke C. Hauff, C. and Chandar, P. The 13th International Conference on the Theory of Information Retrieval.
SIGIR AP 2023	**Retrieving Supporting Evidence for LLMs Generated Answers.** Huo, S. **Arabzadeh, N.** and Clarke C. In 1st International ACM SIGIR Conference on Information Retrieval in the Asia Pacific.
ECIR 2023	**Learning Query-Space Document Representations for High-Recall Retrieval.** Salamat, S. **Arabzadeh, N.** Zarrinkalam, F. Zihayat, M. Bagheri, E. In 45th European Conference on Information Retrieval.
ECIR 2023	**De-biasing Relevance Judgements for Fair Ranking.** Bigdeli, A. **Arabzadeh, N.** Seyedsalehi, S. Zihayat, M. and Bagheri, E. In 45th European Conference on Information Retrieval.
ECIR 2023	**Don't Raise Your Voice, Improve Your Argument: Learning to Retrieve Convincing Arguments.** Salamat, S. **Arabzadeh, N.** Zarrinkalam, F. Zihayat, M. and Bagheri, E. In 45th European Conference on Information Retrieval.
ECIR 2023	**Neural Ad-Hoc Retrieval Meets Open Information Extraction.** Vo, D. Zarrinkalam, F. Pham, B. **Arabzadeh, N.**, Salamat, S. and Bagheri, E. In 45th European Conference on Information Retrieval.
JBI 2023	**A self-supervised language model selection strategy for biomedical question answering.** **Arabzadeh, N.** Bagheri, E. In Journal of Biomedical Informatics.
Neurips 2022	**Interactive Grounded Language Understanding in a Collaborative Environment: Retrospective on Iglu 2022 Competition** Kiseleva, J. Skrynnik, A. Zholus, A. Mohanty, S. Arabzadeh, N. Côté, M. Aliannejadi, M. Teruel, M. Li, Z. Burtsev, M. ter Hoeve, M. Volovikova, Z. Panov, A. Sun, y. Srinet, K. Szlam, A. Awadallah, A. Rho, S. Kwon, T. Wontae Nam, D. Bivort Haiek, F. Zhang, E. Abdrazakov, L. Qingyam, G. Zhang, J. Guo, Z.
InterNLP 2022	**Collecting Interactive Multi-modal Datasets for Grounded Language Understanding** Mohanty, S. Arabzadeh, N. Teruel, M. Sun, y. A. Zholus, A. Skrynnik, A. Burtsev, M. Srinet, K. Panov, A. Szlam, A. Côté, M. and Kiseleva, J.
IRJ 2022	**Shallow pooling for sparse labels.** **Arabzadeh, N.** Vtyurina, A. Yan, X. and A. Clarke, C. In Information Retrieval Journal.
CIKM 2022	**Unsupervised Question Clarity Prediction Through Retrieved Item Coherency.** **Arabzadeh, N.** Seifikar, M. Clarke, C. In 31th ACM International Conference on Information and Knowledge Management.
CIKM 2022	**Early Stage Sparse Retrieval with Entity Linking.** Shehata, D. **Arabzadeh, N.** Clarke, C. In 31th ACM International Conference on Information and Knowledge Management.
SIGIR 2022	**Addressing Gender-related Performance Disparities in Neural Rankers.** Seyedsalehi, S. **Arabzadeh, N.** Bigdeli, A. Zihayat, M. and Bagheri, E. In 45th International ACM SIGIR Conference on Research and Development in Information Retrieval.
EDBT 2022	**Bias-aware Fair Neural Ranking for Addressing Stereotypical Gender Biases.** Bigdeli, A. **Arabzadeh, N.** Seyedsalehi, S. Zihayat, M. and Bagheri, E. In 25th International Conference on Extending Database Technology.
WebSci 2022	**On the Characteristics of Ranking-based Gender Bias Measures.** Klasnja, A. **Arabzadeh, N.** Mehrvarz, M. and Bagheri, E. In 14th ACM Web science Conference.

CIKM 2021   Predicting Efficiency/Effectiveness Trade-offs for Sparse vs. Dense Retrieval Strategy Selection. **Arabzadeh, N.** Clarke, C. and Yan, X. In 30th ACM International Conference on Information and Knowledge Management.

CIKM 2021   BERT-QPP: Contextualized Pre-trained transformers for Query Performance Prediction. **Arabzadeh, N.** Khodabakhsh, M. and Bagheri, E. In 30th ACM International Conference on Information and Knowledge Management.

CIKM 2021   Matches Made in Heaven: Toolkit and Large-Scale Datasets for Supervised Query Reformulation. **Arabzadeh, N.** Bigdeli, A. Seyedsalehi, S. Zihayat, M. and Bagheri, E. In 30th ACM International Conference on Information and Knowledge Management.

CIKM 2021   MS Marco Chameleons: Challenging the MSMarco Leaderboard with Extremely Obstinate Queries. **Arabzadeh, N.** Mitra, B. and Bagheri, E. In 30th ACM International Conference on Information and Knowledge Management.

SIGIR 2021   On the Orthogonality of Bias and Effectiveness in Ad hoc Retrieval. Bigdeli, A. **Arabzadeh, N.** Seyedsalehi, S. Zihayat, M. and Bagheri, E. In 44th International ACM SIGIR Conference on Research and Development in Information Retrieval.

TREC 2021   WaterlooClarke at the TREC 2021 Conversational Assistant Track. Yan, X. Clarke, C. and **Arabzadeh, N.** In 30th Text Retrieval Conference.

ECIR 2022   A Light-weight Strategy for Restraining Gender Biases in Neural Rankers. Seyedsalehi, S. Bigdeli, A. **Arabzadeh, N.** Zihayat, M. and Bagheri, E. In 44rd European Conference on Information Retrieval.

ECIR 2021   Query Performance Prediction through Retrieval Coherency. **Arabzadeh, N.** Bigdeli, A. Zihayat, M. and Bagheri, E. In 43rd European Conference on Information Retrieval.

ECIR 2021   Exploring Gender Biases in Information Retrieval Relevance Judgement Datasets. Bigdeli, A. **Arabzadeh, N.** Zihayat, M. and Bagheri, E. In 43rd European Conference on Information Retrieval.

TREC 2020   WaterlooClarke at the Trec 2020 Conversational Assistant Track. **Arabzadeh, N.** Clarke, C. In 29th Text Retrieval Conference.

SIGIR 2020   Vis-Trec: A System for the In-depth Analysis of trec_eval Results. Tamannaee, M. **Arabzadeh, N.** and Bagheri, E. In 43rd International ACM SIGIR Conference on Research and Development in Information Retrieval.

IP&M 2020   Neural Embedding-based Specificity Metrics for Pre-Retrieval Query Performance Prediction. **Arabzadeh, N.** Zarrinkalam, F. Jovanovic, J. Al-Obeidat, F. and Bagheri, E. In Information Processing and Management Journal.

ECIR 2020   Neural Embedding-based Metrics for Pre-Retrieval Query Performance Prediction. **Arabzadeh, N.** Zarrinkalam, F. Jovanovic, J. and Bagheri, E. In 42nd European Conference on Information Retrieval.

CIKM 2019   Geometric Estimation of Specificity within Embedding Spaces. **Arabzadeh, N.** Zarrinkalam, F. Jovanovic, J. and Bagheri, E. In Proceedings of the 28th ACM International Conference on Information and Knowledge Management.

CIKM 2018   Causal Dependencies for Future Interest Prediction on Twitter. **Arabzadeh, N.** Fani, H. Zarrinkalam, F. Navivala, A. and Bagheri, E. In Proceedings of the 27th ACM International Conference on Information and Knowledge Management.

OSIRRC 2019   Entity Retrieval Docker Image for OSIRRC at SIGIR 2019. In 42nd International ACM SIGIR Conference on Research and Development in Information Retrieval. **Arabzadeh, N.**

INVITED TALKS

Gender Fairness in Information Retrieval systems

Summer 2023	Invited Talk at IEEE Women in Engineering Seminar Series
Fall 2023	Invited Talk at University of Glasgow Information Retrieval Group
Fall 2022	Invited Talk at DEFirst reading group @ MILA x Vector Institute
Winter 2022	Invited Talk at Spotify SPECS conference

A Close look at MS MARCO Hard Queries and Sparse labels

Fall 2021	Invited Talk at Microsoft Bing Research Group

WORK EXPERIENCE

Winter 2021 Summer 2020	**Research Associate - University of Waterloo** Conducting research on neural indexing, dense passage retrieval and conversational search
SPRING 2022 SUMMER 2021	**Consultant - GetWare** Consulting with question answering and semantic search engine
Summer 2020 FALL 2019	**Research Associate - Toronto Metropolitan University** Conducting research in information retrieval
WINTER 2019	**Data scientist - Boss Insight Start-up company** Design a model to predict start-up companies failure or success using machine learning techniques
SPRING 2017 SUMMER 2016	**Software developer in a web and application development company "Jahanjoy"** Developing an advertisement website crawler, developed by C# , using MongoDB
SUMMER 2015 SUMMER 2012	**Robotic supervisor at National Organization for Development of Exceptional Talents** Mentoring and teaching programming and electronic to high school students for robotic competitions.

ACADEMIC SERVICES

Program Committee	The Web Conf 2024 ECIR 2022, 2023, 2024 CIKM 2021, 2022, 2023 SIGIR 2023 ICTIR 2023 QPP++ 2023
Peer Review	Acl Rolling Review 2022, 2023 RecSys 2023 TOIS 2023 IP&M 2021, 2023 SIGIR 2022 ICWSM 2021 CanadianAI 2020 ASONAM 2018, 2020 CASCON 2018, 2019 SMSociety 2018

Skills

Tools	TensorFlow, PyTorch, Large Language Models, Transformers. Docker, Google Cloud Platform , BigQuery
Programming	Python, R, C++ , SQL, MongoDB, Assembly, HTML
Software	MATLAB , Kinect Image processing, Proteus, Altium Designer , SolidWorks
Hardware	ARM, AVR, Arduino Boards

Teaching Assistant

2022-2023	Introduction to Computer Science 2 (CS116),	University of Waterloo
2021-2023	Elementary Algorithm Design and Data Abstraction (CS136),	University of Waterloo
2019-2020	Intelligent Systems (EE8219/ELE888),	Toronto Metropolitan University
2018-2019	Bus Intelligence and Analytics (ITM618),	Toronto Metropolitan University
2018	Data Structure and algorithm (COE428),	Toronto Metropolitan University
2017-2021	Microprocessors (COE538),	Toronto Metropolitan University
2017	Industrial Automation,	AmirKabir University of technology

Mentorship

2022- Now	Sara Salamat - Master's Thesis: Neural Disentanglement of Query Difficulty and Semantics
2022- 2023	Siqing Huo - Master's Thesis: Retrieving Supporting Evidence for LLM Generated Answers
2021- 2022	Mahsa Seifikar- Master's Thesis: A Preference Judgment Tool for Authoritative Assessment
2021- 2022	Dahlia Shehata - Master's thesis: Early Stage Sparse Retrieval with Entity Linking
2019- 2021	Amin Bigdeli - Master's Thesis: Gender bias in Information Retrieval systems

Tutorials

WSDM 2023	Preference-Based Offline Evaluation Clarke, C. Diaz, F. and **Arabzadeh, N.**
ECIR 2023	Understanding and Mitigating Gender Bias in Information Retrieval Systems Bigdeli, A. **Arabzadeh, N.** Seyedsalehi, S. Zihayat, M. and Bagheri, E.
SIGIR 2022	Gender Fairness in Information Retrieval Systems Bigdeli, A. **Arabzadeh, N.** Seyedsalehi, S. Zihayat, M. and Bagheri, E.

References

Charles Clarke	Full Professor at University of Waterloo charles.clarke@uwaterloo.ca
Ebrahim Bagheri	Full Professor at Toronto Metropolictan University bagheri@torontomu.ca
Julia Kiseleva	Senior Research Scientist at Microsoft Research julia.kiseleva@microsoft.com