Bhaskar **Mitra**

Principal Researcher

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Summary

I am a Principal Researcher at Microsoft Research. My research focuses on AI-mediated information and knowledge access. My research interests span model and system development, evaluation and benchmarking, and fairness and ethics in the context of these sociotechnical systems. Before joining Microsoft Research, I worked at Bing for 15 years conducting research with strong focus on both academic and product impact. I am serving as the ACM SIGIR Community Relations Coordinator, an Associate Editor for ACM TOIS, and on the NIST TREC program committee. I am the recipient of two ACM SIGIR 2024 Early Career Researcher Awards for excellence in Research and excellence in Community Engagement. My work has received special recognition and awards at SIGIR and CIKM. I co-organized the Neural IR (Neu-IR) Workshops in 2016 and 2017 which were the first to attempt to bring together a community of information retrieval researchers interested in deep learning methods. I also co-organized several shared evaluation tasks and community benchmarking efforts including the MS MARCO ranking leaderboards, the TREC Deep Learning Track (2019-2023), and the TREC Tip-of-the-Tongue Track (2023-). I received my Ph.D. in Computer Science from University College London under the supervision of Dr. Emine Yilmaz.

Education

University College London — *London, UK*

PhD in Computer Science — *2016 - 2021*

- Thesis: "Neural Methods for Effective, Efficient, and Exposure-Aware Information Retrieval".
- Advisor: Dr. Emine Yilmaz.
- Awarded the Dean's Prize Scholarship for the full course of the program.

Visvesvaraya Technological University — *Belgaum, India*

BE in Computer Science — *2002 - 2006*

- Graduated with First Class Honors.

Industry Experience

Microsoft Research — *Canada*

Principal Researcher — *2022 - PRESENT*

- Conducting machine learning research on enterprise knowledge access with strong focus on both academic and product impact.
- Developing and improving state-of-the-art deep learning and other machine learning methods for enterprise knowledge extraction, entity linking, generative modeling of structured knowledge, and knowledge-base augmentation for large language models.
- Critically exploring the consequences of AI-mediated enterprise knowledge access systems and their impact on workers and society.
- Strong track record of publishing at top-tier peer-reviewed research conferences and journals.

Microsoft — *India, USA, UK, & Canada*

Principal Applied Scientist — *2006 - 2022*

- Conducted machine learning and information retrieval research with strong focus on both academic and product impact, and contributed to strategic external-facing initiatives like `msmarco.org` and open source projects such as `cntk.ai`.
- Conducted research on deep learning models for web search in Bing, and wrote a white paper that became the basis of the first large-scale internal effort at Bing to shift their ranking stack to use Deep Learning technologies more extensively.
- Shipped several search quality improvements for Bing, incl. approaches to extract relevance signals from the structured web and other techniques to improve search quality in international markets as part of the Microsoft Search Alliance with Yahoo! Search (2010).
- Built a research agenda around responsible information access in Bing, incl. conducting internal fairness analysis and research.
- Shipped several features and improvements in the internal experimentation infrastructure at Bing.
- Recipient of multiple internal awards incl. the High-Potential employee program (2007 & 2008), the Gold Star Award (2010), the Above and Beyond Awards (2012), a Special Cash Award (2017), a Special Stock Award (2020), and multiple service awards.
- Work experience at multiple international locations: India (2006 - 2010), USA (2010 - 2013), UK (2013 - 2018) and Canada (2018 - present).

Amazon — *India*

Intern — *2006*

- Worked on the distributed data store and the query management components of an early Amazon Payments Web Service prototype.

Hewlett-Packard — *India*

Intern — *2005*

- Worked on a HP-UX Kernel Debugger project involving distillation of kernel crash dump data into an AJAX based hypertext interface.

Honors & Awards

2024	**ACM SIGIR Early Career Researcher Award**, for excellence in Research	*USA*
2024	**ACM SIGIR Early Career Researcher Award**, for excellence in Community Engagement	*USA*
2021	**Microsoft Service Award**, for completing 15 years at Microsoft	*Canada*
2020	**Best Full Paper Nominee**, CIKM 2020	*Online*
2018	**Best Short Paper Award**, SIGIR 2018	*USA*
2018	**Ranked 7^{th}**, RecSys Challlenge 2018	*Canada*
2017	**Outstanding Reviewer Award**, SIGIR 2017	*Japan*
2016	**Dean's Prize scholarship**, University College London	*UK*
2016	**Microsoft Service Award**, for completing 10 years at Microsoft	*UK*
2011	**Microsoft Service Award**, for completing 5 years at Microsoft	*USA*
2011	**Microsoft IDC Innovation Award**, Microsoft India Development Center	*India*
2010	**Microsoft IDC Innovation Award**, Microsoft India Development Center	*India*
2006	**Semi-finalist**, Code4Bill competition, all India national coding competition organized by Microsoft	*India*
2001	**Gold merit certificate**, for securing all India rank 6 and state level rank 1 in the 1st National Cyber Olympiad organized by The National Science Olympiad Foundation of India	*India*
2001	**Ranked 1^{st}**, in The Academic & Achievement Tests jointly conducted by The Council for the Indian School Certificate Examinations and The Institute of Psychological & Educational Measurement	*India*
2001	**High Distinction and Distinction**, in Mathematics and Science in The International Assessments for Schools organized by The University of New South Wales and The Educational Testing Centre	*India*
1996	**High Distinction and Distinction**, in Mathematics and Science in The International Assessments for Schools organized by The University of New South Wales and The Educational Testing Centre	*India*

Publications and Patents

Google Scholar Metrics. **citations: 8,003**; **h-index: 32**; and **i10-index: 53** (as of November 2024).
Latest publications available at: `https://scholar.google.com/citations?user=PFMB5SsAAAAJ`.

Dissertation

2021 **Bhaskar Mitra**. *Neural Methods for Effective, Efficient, and Exposure-Aware Information Retrieval*. PhD thesis, University College London, UK.

Books, chapters, and monographs

2024 **Bhaskar Mitra**, Henriette Cramer, and Olya Gurevich. *Sociotechnical Implications of Generative Artificial Intelligence for Information Access*. Chapter in Information Access in the Era of Generative AI (Chirag Shah and Ryen White, editors), Springer (to appear).

2018 **Bhaskar Mitra** and Nick Craswell. *An Introduction to Neural Information Retrieval*. In Foundations and Trends® in Information Retrieval, Now Publishers, Inc.

2014 Amit Agarwal, Eldar Akchurin, Chris Basoglu, Guoguo Chen, Scott Cyphers, Jasha Droppo, Adam Eversole, Brian Guenter, Mark Hillebrand, Xuedong Huang, Zhiheng Huang, Vladimir Ivanov, Alexey Kamenev, Philipp Kranen, Oleksii Kuchaiev, Wolfgang Manousek, Avner May, **Bhaskar Mitra**, Olivier Nano, Gaizka Navarro, Alexey Orlov, Marko Padmilac, Hari Parthasarathi, Baolin Peng, Alexey Reznichenko, Frank Seide, Michael L. Seltzer, Malcolm Slaney, Andreas Stolcke, Huaming Wang, Kaisheng Yao, Dong Yu, Yu Zhang, and Geoffrey Zweig. *An introduction to computational networks and the computational network toolkit*. Microsoft Technical Report MSR-TR-2014–112.

Conference

2024 Haolun Wu, Ye Yuan, Liana Mikaelyan, Alexander Meulemans, Xue Liu, James Hensman, and **Bhaskar Mitra**. *Structured Entity Extraction Using Large Language Models*. In proc. EMNLP.

2024 Paul Thomas, Seth Spielman, Nick Craswell, and **Bhaskar Mitra**. *Large language models can accurately predict searcher preferences*. In proc. SIGIR, ACM.

2024 Hossein A. Rahmani, Nick Craswell, Emine Yilmaz, **Bhaskar Mitra**, and Daniel Campos. *Synthetic Test Collections for Retrieval Evaluation*. In proc. SIGIR, ACM.

2024 Haolun Wu, **Bhaskar Mitra**, and Nick Craswell. *Towards Group-aware Search Success*. In proc. ICTIR, ACM.

2024 Anna Gausen, Siân Lindley, and **Bhaskar Mitra**. *A Framework for Exploring the Consequences of AI-Mediated Enterprise Knowledge Access and Identifying Risks to Workers*. In proc. FAccT, ACM.

2024 Nick Craswell, **Bhaskar Mitra**, Emine Yilmaz, Hossein A. Rahmani, Daniel Campos, Jimmy Lin, Ellen M. Voorhees, and Ian Soboroff. *Overview of the TREC 2023 Deep Learning Track*. In proc. TREC.

2024 Jaime Arguello, Samarth Bhargav, Fernando Diaz, Evangelos Kanoulas, and **Bhaskar Mitra**. *Overview of the TREC 2023 Tip-of-the-Tongue Track*. In proc. TREC.

2023 Amifa Raj, **Bhaskar Mitra**, Nick Craswell, and Michael D. Ekstrand. *Patterns of Gender-Specializing Query Reformulation*. In proc. SIGIR, ACM.

2023 Chirag Shah, Ryen White, Paul Thomas, **Bhaskar Mitra**, Shawon Sarkar, and Nicholas Belkin. *Taking Search to Task*. In proc. CHIIR, ACM.

2023 Amin Bigdeli, Negar Arabzadeh, Shirin Seyedsalehi, **Bhaskar Mitra**, Morteza Zihayat, and Ebrahim Bagheri. *De-Biasing Relevance Judgements for Fair Ranking*. In proc. ECIR, ACM.

2023 Nick Craswell, **Bhaskar Mitra**, Emine Yilmaz, Daniel Campos, and Jimmy Lin. *Overview of the TREC 2022 Deep Learning Track*. In proc. TREC.

2022 Haolun Wu*, **Bhaskar Mitra***, Chen Ma, and Xue Liu (*equal contributions). *Joint Multisided Exposure Fairness for Recommendation*. In proc. SIGIR, ACM.

2022 Daniel Cohen, Kevin Du, **Bhaskar Mitra**, Laura Mercurio, Navid Rekabsaz, and Carsten Eickhoff. *Inconsistent Ranking Assumptions in Medical Search and Their Downstream Consequences*. In proc. SIGIR, ACM.

2022 Jimmy Lin, Daniel Campos, Nick Craswell, **Bhaskar Mitra**, and Emine Yilmaz. *Fostering Coopetition While Plugging Leaks: The Design and Implementation of the MS MARCO Leaderboards*. In proc. SIGIR, ACM.

2022 Ruohan Li, Jianxiang Li, **Bhaskar Mitra**, Fernando Diaz, and Asia Biega. *Exposing query identification for Search Transparency*. In proc. TheWebConf, Web4Good Special Track.

2022 Gabriella Kazai, **Bhaskar Mitra**, Anlei Dong, Nick Craswell, and Linjun Yang. *Less is Less: When Are Snippets Insufficient for Human vs Machine Relevance Estimation?* In proc. ECIR, ACM.

2022 Nicola Neophytou, **Bhaskar Mitra**, and Catherine Stinson. *Revisiting Popularity and Demographic Biases in Recommender Evaluation and Effectiveness*. In proc. ECIR, ACM.

2022 Shirin SeyedSalehi, Amin Bigdeli, Negar Arabzadeh, **Bhaskar Mitra**, Morteza Zihayat, and Ebrahim Bagheri. *Bias-aware Fair Neural Ranking for Addressing Stereotypical Gender Biases*. In proc. EDBT.

2022 Nick Craswell, **Bhaskar Mitra**, Emine Yilmaz, Daniel Campos, and Jimmy Lin. *Overview of the TREC 2021 Deep Learning Track*. In proc. TREC.

2021 Negar Arabzadeh, **Bhaskar Mitra**, and Ebrahim Bagheri. *MS MARCO Chameleons: Challenging the MS MARCO Leaderboard with Extremely Obstinate Queries*. In proc. CIKM, ACM.

2021 Nick Craswell, **Bhaskar Mitra**, Emine Yilmaz, Daniel Campos, and Jimmy Lin. *MS MARCO: Benchmarking ranking models in the large-data regime*. In proc. SIGIR, ACM.

2021 Daniel Cohen, **Bhaskar Mitra**, Oleg Lesota, Navid Rekabsaz, and Carsten Eickhoff. *Not All Relevance Scores are Equal: Efficient Uncertainty and Calibration Modeling for Deep Retrieval Models*. In proc. SIGIR, ACM.

2021 Sebastian Hofstätter, **Bhaskar Mitra**, Hamed Zamani, Nick Craswell, and Allan Hanbury. *Intra-document cascading: Learning to select passages for neural document ranking*. In proc. SIGIR, ACM.

2021 **Bhaskar Mitra**, Sebastian Hofstätter, Hamed Zamani, and Nick Craswell. *Improving Transformer-Kernel Ranking Model Using Conformer and Query Term Independence*. In proc. SIGIR, ACM.

2021 Jimmy Lin, Daniel Campos, Nick Craswell, **Bhaskar Mitra**, and Emine Yilmaz.. *Significant Improvements over the State of the Art? A Case Study of the MS MARCO Document Ranking Leaderboard*. In proc. SIGIR, ACM.

2021 Nick Craswell, **Bhaskar Mitra**, Emine Yilmaz, Daniel Campos, Ellen Voorhees, and Ian Soboroff. *Trec deep learning track: Reusable test collections in the large data regime*. In proc. SIGIR, ACM.

2021 Jaime Arguello, Adam Ferguson, Emery Fine, **Bhaskar Mitra**, Hamed Zamani, and Fernando Diaz. *Tip of the Tongue Known-Item Retrieval: A Case Study in Movie Identification*. In proc. CHIIR, ACM.

2021 Nick Craswell, **Bhaskar Mitra**, Emine Yilmaz, and Daniel Campos. *Overview of the TREC 2020 Deep Learning Track*. In proc. TREC.

2021 **Bhaskar Mitra**, Sebastian Hofstatter, Hamed Zamani, and Nick Craswell. *Conformer-Kernel with Query Term Independence at TREC 2020 Deep Learning Track*. In proc. TREC.

2020 Fernando Diaz, **Bhaskar Mitra**, Michael D Ekstrand, Asia J Biega, and Ben Carterette. *Evaluating Stochastic Rankings with Expected Exposure*. In proc. CIKM, ACM. **BEST FULL PAPER NOMINEE**. 🏆

2020 Nick Craswell, Daniel Campos, **Bhaskar Mitra**, Emine Yilmaz, and Bodo Billerbeck. *ORCAS: 18 Million Clicked Query-Document Pairs for Analyzing Search*. In proc. CIKM, ACM.

2020 Hamed Zamani, **Bhaskar Mitra**, Everest Chen, Gord Lueck, Fernando Diaz, Paul N Bennett, Nick Craswell, and Susan T Dumais. *Analyzing and Learning from User Interactions for Search Clarification*. In proc. SIGIR, ACM.

2020 Sebastian Hofstätter, Hamed Zamani, **Bhaskar Mitra**, Nick Craswell, and Allan Hanbury. *Local Self-Attention over Long Text for Efficient Document Retrieval*. In proc. SIGIR, ACM.

2020 Emine Yilmaz, Nick Craswell, **Bhaskar Mitra**, and Daniel Campos. *On the Reliability of Test Collections for Evaluating Systems of Different Types*. In proc. SIGIR, ACM.

2020 Nick Craswell, **Bhaskar Mitra**, Emine Yilmaz, Daniel Campos, and Ellen M Voorhees. *Overview of the TREC 2019 Deep Learning Track*. In proc. TREC.

2020 **Bhaskar Mitra** and Nick Craswell. *Duet at TREC 2019 Deep Learning Track*. In proc. TREC.

2019 Corby Rosset, **Bhaskar Mitra**, Chenyan Xiong, Nick Craswell, Xia Song, and Saurabh Tiwary. *An Axiomatic Approach to Regularizing Neural Ranking Models*. In proc. SIGIR, ACM.

2018 Hamed Zamani, **Bhaskar Mitra**, Xia Song, Nick Craswell, and Saurabh Tiwary. *Neural Ranking Models with Multiple Document Fields*. In proc. WSDM, ACM.

2018 Daniel Cohen, **Bhaskar Mitra**, Katja Hofmann, and W. Bruce Croft. *Cross Domain Regularization for Neural Ranking Models Using Adversarial Learning*. In proc. SIGIR, ACM. **BEST SHORT PAPER AWARD**. 🏆

2018 Corby Rosset, Damien Jose, Gargi Ghosh, **Bhaskar Mitra**, and Saurabh Tiwary. *Optimizing Query Evaluations Using Reinforcement Learning for Web Search*. In proc. SIGIR, ACM.

2017 Christophe Van Gysel, **Bhaskar Mitra**, Matteo Venanzi, Roy Rosemarin, Grzegorz Kukla, Piotr Grudzien, and Nicola Cancedda. *Reply With: Proactive Recommendation of Email Attachments*. In proc. CIKM, ACM.

2017 **Bhaskar Mitra** Fernando Diaz, and Nick Craswell. *Learning to Match Using Local and Distributed Representations of Text for Web Search*. In proc. WWW.

2017 Federico Nanni, **Bhaskar Mitra**, Matt Magnusson, and Laura Dietz. *Benchmark for Complex Answer Retrieval*. In proc. ICTIR, ACM.

2017 **Bhaskar Mitra**, Fernando Diaz, and Nick Craswell. *Luandri: A Clean Lua Interface to the Indri Search Engine*. In proc. SIGIR, ACM.

2016 Fernando Diaz, **Bhaskar Mitra**, and Nick Craswell. *Query expansion with Locally-Trained Word Embeddings*. In proc.ACL.

2016 Eric Nalisnick, **Bhaskar Mitra**, Nick Craswell, and Rich Caruana. *Improving Document Ranking with Dual Word Embeddings*. In proc. WWW.

2015 **Bhaskar Mitra**. *Exploring Session Context using Distributed Representations of Queries and Reformulations*. In proc. SIGIR, ACM.

2015 **Bhaskar Mitra** and Nick Craswell. *Query Auto-Completion for Rare Prefixes*. In proc. CIKM, ACM.

2014 Kajta Hofmann, **Bhaskar Mitra**, Filip Radlinski, and Milad Shokouhi. *An Eye-Tracking Study of User Interactions with Query Auto Completion*. In proc. CIKM, ACM.

2014 **Bhaskar Mitra**, Milad Shokouhi, Filip Radlinski, and Katja Hofmann. *On User Interactions with Query Auto-Completion*. In proc. SIGIR, ACM.

Journal

2024 Haolun Wu, Yansen Zhang, Chen Ma, Fuyuan Lyu, Bowei He, **Bhaskar Mitra**, and Xue Liu. *Result Diversification in Search and Recommendation: A Survey*. In Transactions on Knowledge and Data Engineering (TKDE), IEEE.

2017 Haolun Wu, Chen Ma, **Bhaskar Mitra**, Fernando Diaz, and Xue Liu. *A Multi-objective Optimization Framework for Multi-stakeholder Fairness-aware Recommendation*. In Transactions on Information Systems (TOIS), ACM.

2017 Nick Craswell, W Bruce Croft, Maarten de Rijke, Jiafeng Guo, and **Bhaskar Mitra**. *Neural information retrieval: introduction to the special issue*. In the special issue of the Information Retrieval Journal on neural information retrieval, Springer Netherlands.

Workshop

2024 Andrew D. Gordon, Carina Negreanu, Jośe Cambronero, Rasika Chakravarthy, Ian Drosos, Hao Fang, **Bhaskar Mitra**, Hannah Richardson, Advait Sarkar, Stephanie Simmons, Jack Williams, and Ben Zorn. *Co-audit: tools to help humans double-check AI-generated content*. In proc. Workshop on the intersection of HCI and PL (PLATEAU).

2022 Ida Larsen-Ledet, **Bhaskar Mitra**, and Siân Lindley. *Ethical and Social Considerations in Automatic Expert Identification and People Recommendation in Organizational Knowledge Management Systems*. In proc. FAccTRec Workshop on Responsible Recommendation at RecSys .

2018 Surya Kallumadi, **Bhaskar Mitra**, and Tereza Iofciu. *A Line in the Sand: Recommendation or Ad-hoc Retrieval?*. In proc. RecSys'18.

2017 Navid Rekabsaz, **Bhaskar Mitra**, Mihai Lupu, and Allan Hanbury. *Toward Incorporation of Relevant Documents in word2vec*. In proc. Neu-ir'17: Neural information retrieval workshop (SIGIR).

2016 **Bhaskar Mitra**, Grady Simon, Jianfeng Gao, Nick Craswell, and Li Deng. *A Proposal for Evaluating Answer Distillation from Web Data*. In proc. Second WebQA Workshop (SIGIR).

Preprints

2024 Hossein A Rahmani, Xi Wang, Emine Yilmaz, Nick Craswell, **Bhaskar Mitra**, and Paul Thomas. *SynDL: A Large-Scale Synthetic Test Collection for Passage Retrieval*. ArXiv preprint arxiv:2408.16312.

2024 Hossein A Rahmani, Emine Yilmaz, Nick Craswell, **Bhaskar Mitra**, Paul Thomas, Charles L A Clarke, Mohammad Aliannejadi, Clemencia Siro, and Guglielmo Faggioli. *LLMJudge: LLMs for Relevance Judgments*. ArXiv preprint arxiv:2408.08896.

2024 **Bhaskar Mitra**. *Search and Society: Reimagining Information Access for Radical Futures*. ArXiv preprint arXiv:2403.17901.

2024 Karina Cortiñas Lorenzo, **Bhaskar Mitra**, and Siân Lindley. *Through the Looking Glass: Transparency Implications and Challenges in Enterprise AI Knowledge Systems*. ArXiv preprint arxiv:2401.09410

2023 Ouail Kitouni, Niklas Nolte, James Hensman, and **Bhaskar Mitra**. *DiSK: A Diffusion Model for Structured Knowledge*. ArXiv preprint arXiv:2312.05253.

2023 Fernando Diaz and **Bhaskar Mitra**. *Recall, Robustness, and Lexicographic Evaluation*. ArXiv preprint arXiv:2302.11370.

2022 Sebastian Hofstätter, Nick Craswell, **Bhaskar Mitra**, Hamed Zamani, and Allan Hanbury. *Are We There Yet? A Decision Framework for Replacing Term-Based Retrieval with Dense Retrieval Systems*. ArXiv preprint arXiv:2206.12993.

2020 **Bhaskar Mitra**, Sebastian Hofstatter, Hamed Zamani, and Nick Craswell. *Conformer-Kernel with Query Term Independence for Document Retrieval*. arXiv preprint arXiv:2007.10434.

2020 Jason Ingyu Choi, Surya Kallumadi, **Bhaskar Mitra**, Eugene Agichtein, and Faizan Javed. *Semantic Product Search for Matching Structured Product Catalogs in E-Commerce*. arXiv preprint arXiv:2008.08180.

2019 **Bhaskar Mitra**, Corby Rosset, David Hawking, Nick Craswell, Fernando Diaz, and Emine Yilmaz. *Incorporating query term independence assumption for efficient retrieval and ranking using deep neural networks*. arXiv preprint arXiv:1907.03693.

2019 **Bhaskar Mitra** and Nick Craswell. *An updated duet model for passage re-ranking*. arXiv preprint arXiv:1903.07666.

2018 Payal Bajaj, Daniel Campos, Nick Craswell, Li Deng, Jianfeng Gao, Xiaodong Liu, Rangan Majumder, Andrew McNamara, **Bhaskar Mitra**, Tri Nguyen, Mir Rosenberg, Xia Song, Alina Stoica, Saurabh Tiwary, and Tong Wang. *MS MARCO: A human generated machine reading comprehension dataset*. arXiv preprint arXiv:1611.09268.

2017 **Bhaskar Mitra** and Nick Craswell. *Neural Models for Information Retrieval*. arXiv preprint arXiv:1705.01509.

2016 **Bhaskar Mitra**, Eric Nalisnick, Nick Craswell, and Rich Caruana. *A dual embedding space model for document ranking*. arXiv preprint arXiv:1602.01137.

Conference and workshop reports

2024 Hossein A. Rahmani, Clemencia Siro, Mohammad Aliannejadi, Nick Craswell, Charles L. A. Clarke, Guglielmo Faggioli, **Bhaskar Mitra**, Paul Thomas, Emine Yilmaz. *Report on the 1st Workshop on Large Language Model for Evaluation in Information Retrieval (LLM4Eval 2024) at SIGIR 2024*. In SIGIR Forum, ACM (to appear).

2024 Leif Azzopardi, Charles L. A. Clarke, Paul Kantor, **Bhaskar Mitra**, Johanne R. Trippas, Zhaochun Ren, and others. *Report on The Search Futures Workshop at ECIR 2024*. In SIGIR Forum, ACM.

2021 Chirag Shah, Torsten Suel, Fernando Diaz, **Bhaskar Mitra**, Bárbara Poblete, Hussein Suleman, and Suzan Verberne. *SIGIR 2021 Conference Report*. In SIGIR Forum, ACM.

2020 Laura Dietz, **Bhaskar Mitra**, Jeremy Pickens, and others. *Report on the First HIPstIR Workshop on the Future of Information Retrieval*. In SIGIR Forum, ACM.

2017 Nick Craswell, W Bruce Croft, Maarten de Rijke, Jiafeng Guo, and **Bhaskar Mitra**. *Report on the Second SIGIR Workshop on Neural Information Retrieval (Neu-IR'17)*. In SIGIR Forum, ACM.

2016 Nick Craswell, W Bruce Croft, Jiafeng Guo, **Bhaskar Mitra**, and Maarten de Rijke. *Report on the SIGIR 2016 Workshop on Neural Information Retrieval (Neu-IR)*. In SIGIR Forum, ACM.

Tutorials

2018 Tom Kenter, Alexey Borisov, Christophe Van Gysel, Mostafa Dehghani, Maarten de Rijke, and **Bhaskar Mitra**. *Neural networks for information retrieval*. In proc. ECIR, ACM.

2018 Tom Kenter, Alexey Borisov, Mostafa Dehghani, Maarten de Rijke, and **Bhaskar Mitra**. *Neural networks for information retrieval*. In proc. WSDM, ACM.

2017 Tom Kenter, Alexey Borisov, Christophe Van Gysel, Mostafa Dehghani, Maarten de Rijke, and **Bhaskar Mitra**. *Neural networks for information retrieval*. In proc. SIGIR, ACM.

2017 **Bhaskar Mitra** and Nick Craswell. *Neural text embeddings for information retrieval*. In proc. WSDM, ACM.

Patents

2023 **Bhaskar Mitra**, Yordan Zaykov, John Winn , and James Hensman. *Incorporating Structured Knowledge in Neural Networks*. US Patent application.

2023 Corby Rosset, **Bhaskar Mitra**, David Hawking, Nick Craswell, Fernando Diaz, and Emine Yilmaz. *Neural network for search retrieval and ranking*. US Patent 11,615,149.

2023 Amy Huyen Phuoc Nguyen, **Bhaskar Mitra**, Christophe Jacky Henri Van Gysel, Grzegorz Stanislaw Kukla, Lynn Carter Ayres, Mark Rolland Knight, Matteo Venanzi, Nicola Cancedda, Rachel Elizabeth Sirkin, Robin Michael Thomas, Roy Rosemarin, Shobana Balakrishnan, Sri Ramya Mallipudi, Tariq Sharif, and Yamin Wang. *Intelligent query system for attachments*. US Patent 11,556,548.

2016 **Bhaskar Mitra**, Elbio Renato Abib, Fabio Eigi Imada, and Yu Jiao. *Inferring entity attribute values*. US Patent 9,501,503.

2014 Rupesh Rasiklal Mehta, Sree Hari Nagaralu, Anjana Das, and **Bhaskar Mitra**. *Utilization of features extracted from structured documents to improve search relevance*. US Patent 8,788,436.

Professional Activities

Services

- Associate Editor, ACM Transactions on Information Systems, 2024-2027.
- ACM SIGIR Community Relations Coordinator, 2022-2025.
- Best paper Chair, SIGIR-AP, 2024.
- Resource & Reproducibility Chair, SIGIR, 2024.
- Coordinator: Tip-of-the-Tongue track at the Text Retrieval Conference (TREC), 2023-2024.
- Coordinator: Deep Learning Track at the Text Retrieval Conference (TREC), 2019 - 2023.
- Industry Track Chair, FIRE, 2023.
- Tutorials Chair, ECIR, 2023.
- PhD Symposium Chair, CIKM, 2022.
- Diversity, Equity, and Inclusion Sponsorship Chair, CIKM, 2021.
- Diversity, Equity, and Inclusion Chair, SIGIR, 2021.
- Virtual chair, SIGIR, 2021.
- Session chair: IR Models, SIGIR, 2021.
- Organizer: Microsoft MAchine Reading COmprehension (MS MARCO) passage and document ranking challenge, with Payal Bajaj, Daniel Campos, Nick Craswell, and others, 2018.
- Guest editor: Special Issue of the Information Retrieval Journal on Neural Information Retrieval, with Nick Craswell, W. Bruce Croft, Maarten de Rijke, and Jiafeng Guo, 2017.
- Session Chair: Deep learning in practice, Industry track at WWW, 2016.
- Best Paper Committee Member: SIGIR.
- Senior Area Chair, Senior Program Committee Member, and Program Committee Member: EMNLP, WebConf, SIGIR, WSDM, CIKM, ACL, NAACL, EMNLP, CHIIR, ICTIR, and other conferences.

Keynotes, invited talks, and guest lectures

- Invited talk: Sociotechnical Implications of Generative AI for Information Access, at (Re)defining Responsible AI workshop, MILA, 2024.
- Keynote talk: Bias and Beyond: On Generative AI and the Future of Search and Society, at The International Workshop on Algorithmic Bias in Search and Recommendation (BIAS), at ACM SIGIR (Washington DC, USA), July 2024.
- Invited talk: Search and Society: Reimagining Information Access for Radical Futures, at Canadian AI, 2024.
- Invited talk: Joint Multisided Exposure Fairness for Search and Recommendation, at SEA: Search Engines Amsterdam, 2023.
- Invited talk: What's next for deep learning for Search?, at Etsy, 2022.
- Invited talk: So, You Want to Release a Dataset? Reflections on Benchmark Development, Community Building, and Making Robust Scientific Progress, at Spotify, 2022.
- Keynote talk: Efficient Machine Learning and Machine Learning for Efficiency in Information Retrieval, TREC, and Beyond, at The Workshop on Reaching Efficiency in Neural Information Retrieval (ReNeuIR), at ACM SIGIR (Madrid, Spain), July 2022.
- Invited talk: Multisided Exposure fairness for Search and Recommendation, at Lowe's, 2022.
- Guest lecture: Neural Learning to Rank, at Dayananda Sagar College of Engineering, 2022.
- Invited talk: Deep Learning for Effective, Exposure-Aware, and Efficient Information Retrieval, at Microsoft Research, Cambridge, UK, 2022.
- Invited talk: Multisided Exposure fairness for Search and Recommendation, at Microsoft Research, Montreal, Canada, 2022.
- Invited talk: Neural Information Retrieval: In search of meaningful progress, at CIIR Talk Series, University of Massachusetts Amherst, 2021.
- Invited talk: Neural Information Retrieval: In search of meaningful progress, at CLIP Colloquium, University of Maryland, 2021.
- Guest lecture: Deep Neural Methods for Retrieval, at University College London, 2021.

- Guest lecture: Neural Learning to Rank, at University College London, 2021.
- Keynote talk: Benchmarking for Neural Information Retrieval: MS MARCO, TREC, and Beyond, at The 6th Natural Language Interfaces for the Web of Data (NLIWOD) Workshop, at The 19th International Semantic Web Conference, November 2020.
- Guest lecture: Deep Neural Methods for Retrieval, at Emory University, 2020.
- Guest lecture: Neural Learning to Rank, at Emory University, 2020.
- Keynote talk: 5 Lessons Learned from Designing Neural Models for Information Retrieval, at The 10th Recherche d'Information SEmantique (RISE) workshop, at The CORIA-TALN-RJC conference (Rennes, France), May 2018.
- Invited panelist: From Research To Production, at ECIR Industry Day, ECIR, March 2018.
- Guest lecture: A Simple Introduction to Neural Information Retrieval, at University College London, London, UK, 2018.
- Invited talk: Neural Models for Document Ranking, at Facebook, Seattle, USA, 2017.
- Invited talk: Neural Models for Document Ranking, at Microsoft Research, Redmond, USA, 2017.
- Invited talk: Neural Models for Document Ranking, at University of Glasgow, Glasgow, UK, 2017.
- Invited talk: Neural Models for Document Ranking, at The 4th International Alexandria Workshop, Hannover, Germany, 2017.
- Invited talk: Neural Models for Information Retrieval, at The NLIP seminar series, University of Cambridge, Cambridge, UK, 2017.
- Invited talk: Using Text Embeddings for Information Retrieval, at University of Glasgow, Glasgow, UK, 2016.
- Invited talk: A Simple Introduction to Word Embeddings, at North Eastern University, Seattle, USA, 2016.
- Invited talk: Vectorland: Brief Notes from Using Text Embeddings for Search, at Search Solutions, London, UK, 2015.

Workshops

- *LLM4Eval: Large Language Model for Evaluation in IR*, with Hossein A. Rahmani, Clemencia Siro, Mohammad Aliannejadi, Nick Craswell, Charlie Clarke, Guglielmo Faggioli, Paul Thomas, and Emine Yilmaz, WSDM, 2025.
- *ReNeuIR at SIGIR 2024: The Third Workshop on Reaching Efficiency in Neural Information Retrieval*, with Maik Fröbe, Joel Mackenzie, Franco Maria Nardini, and Martin Potthast, SIGIR, 2024.
- *LLM4Eval: Large Language Model for Evaluation in IR*, with Hossein A. Rahmani, Clemencia Siro, Mohammad Aliannejadi, Nick Craswell, Charlie Clarke, Guglielmo Faggioli, Paul Thomas, and Emine Yilmaz, SIGIR, 2024.
- *The Search Futures Workshop*, with Leif Azzopardi, Charlie Clarke, Paul Kantor, Johanne Trippas, and Zhaochun Ren, ECIR, 2024.
- *The HIPstIR Workshop: The hip "stick, sand, and paper" retreat on the future of information retrieval*, with Laura Dietz and Jeremy Pickens, 2019.
- *The ACM SIGIR Workshop on Neural Information Retrieval (Neu-IR)*, with Nick Craswell, W Bruce Croft, Jiafeng Guo, and Maarten de Rijke, SIGIR, 2017.
- *The ACM SIGIR Workshop on Neural Information Retrieval (Neu-IR)*, with Nick Craswell, W Bruce Croft, Jiafeng Guo, and Maarten de Rijke, SIGIR, 2016.

Tutorials

- *Learning to Rank for Information Retrieval with Neural Networks*, with Nick Craswell, Emine Yilmaz, and Daniel Campos, at ACM SIGIR/SIGKDD Africa Summer School on Machine Learning for Data Mining and Search (AFIRM), 2020.
- *Deep Learning for Search*, at Forum for Information Retrieval Evaluation (FIRE), 2019.
- *Neural Learning to Rank*, at IVADO Recommender Systems Summer School, 2019.
- *Deep Learning for Information Retrieval*, with Nick Craswell, Emine Yilmaz, and Daniel Campos, at ACM SIGIR/SIGKDD Africa Summer School on Machine Learning for Data Mining and Search (AFIRM), 2019.
- *Neural Networks for Information Retrieval*, with Tom Kenter, Alexey Borisov, Christophe Van Gysel, Mostafa Deghani, and Maarten de Rijke, ECIR, 2018.
- *Neural Networks for Information Retrieval*, with Tom Kenter, Alexey Borisov, Christophe Van Gysel, Mostafa Deghani, and Maarten de Rijke, WSDM, 2018.
- *NN4IR: The SIGIR 2017 tutorial on Neural Networks for Information Retrieval*, with Tom Kenter, Alexey Borisov, Christophe Van Gysel, Mostafa Deghani, and Maarten de Rijke, SIGIR, 2017.
- *The WSDM 2017 Tutorial on Neural Text Embeddings for Information Retrieval*, with Nick Craswell, WSDM, 2017.

Diversity, Equity, and Inclusion

- Invited panelist at the Diversity, Equity, and Inclusion (DEI) lunch, SIGIR, 2024.
- Served as Diversity, Equity, and Inclusion (DEI) Sponsorship Chair, CIKM, 2021.
- Served as Diversity, Equity, and Inclusion (DEI) Chair, SIGIR, 2021.
- Authored and presented the land and territory acknowledgment, SIGIR, 2021.
- I co-founded two grassroot Diversity, Inclusion, and Belonging (DIB) committees—one in Microsoft Montreal and one in the Bing Core Search and AI team—that organized regular discussions on DIB related topics among other initiatives.
- I have organized several tutorials aimed at growing the IR research community in Africa (AFIRM) and India (FIRE).
- I participate in community organizing and social movements outside of work.

Extracurricular Activities

- I have travelled to all seven continents, incl. Antarctica, 2023.
- Race crew, Leg 1 of the Clipper Round The World yacht race (sailed for 34 days from Liverpool, UK to Punte del Este, Uruguay), 2017.
- Open Water Certified diver with multiple dives around the world—incl. at Silfra, Iceland in the rift between the North American and Eurasian tectonic plates, 2016.
- Climbed Mt. Kilimanjaro (Uhuru Peak), highest peak in Africa, 2014.

- Multiple trips as a general volunteer on medical brigades to Tena, Ecuador with Timmy Global Health (2012-14, 2016-17).
- Volunteered on lion rehabilitation projects in Antelope Park, Zimbabwe with African Impact, 2014.

References

- Emine Yilmaz, Professor, University College London, UK (Email: emine.yilmaz@ucl.ac.uk)
- Nick Craswell, Principal Architect, Microsoft, USA (Email: nickcr@microsoft.com)
- Fernando Diaz, Associate Professor, Language Technologies Institute, Carnegie Mellon University, USA (Email: diazf@acm.org)