Behrooz Mansouri

Graduate Program Director
Assistant Professor
Department of Computer Science
University of Southern Maine, Maine, USA

behrooz.mansouri@maine.edu
Tel/Fax: +207-780-4240 / 01

Education

Rochester Institute of Technology (RIT), Rochester, NY, USA

Ph.D. in Computer Science (September 2018 – July 2022)

- Dissertation: Leveraging Formulae and Text for Improved Math Retrieval
- Supervisors: Prof. Richard Zanibbi (RIT) and Prof. Douglas W. Oard (University of Maryland)

University of Tehran, Tehran, Iran

M.Sc. of Computer Engineering, software field (September 2014 - September 2017)

- Thesis: Improving Temporal Query Classification in Information Retrieval
- Supervisors: Prof. Maseud Rahgozar (University of Tehran) and Prof. Farhad Oroumchian (University of Wollongong in Dubai)

Shahid Beheshti University, Tehran, Iran

B.Sc. of Computer Engineering, Software Field (September 2009 - May 2014)

- Thesis: Encryption techniques in network security

Honors

- Nominated for the best paper award at Joint Conference on Digital Library (JCDL) 2019
- Candidate for the best master thesis at School of Electrical and Computer Engineering, University of Tehran
- Student travel grant for The ACM SIGIR International Conference on the Theory of Information Retrieval 2017
- Rank 41st in nationwide M.Sc. entrance exam among about 35000 applicants
- Rank among the top 15% in nationwide B. Sc. entrance exam in 2008

Publication

Books

1. Zanibbi, R., **Mansouri, B.**, & Agarwal, A. Mathematical Information Retrieval: Searching with Formulas and Text. In Foundations and Trends® in Information Retrieval. (In progress)

Full Papers (Peer-Reviewed Conference Papers)

2. **Mansouri, B. ,** JahediBashiz, Faranak. Clarifying Questions in Math Information Retrieval In Proceedings of the 2023 ACM SIGIR International Conference on Theory of Information Retrieval (ICTIR).

3. **Mansouri, B.**, Novotný, V., Agarwal, A., Oard, D.W., & Zanibbi, R. Overview of ARQMath-3 (2022): Third CLEF Lab on Answer Retrieval for Questions on Math. In International Conference and Labs of the Evaluation Forum. Springer, Cham.

4. **Mansouri, B.**, Zanibbi, R., & Oard, D. W. (2021). Learning to Rank for Mathematical Formula Retrieval. In SIGIR 2021. In Proceedings of the 44th International ACM SIGIR Conference on Research and Development in Information Retrieval (pp. 952-961) (acceptance rate: 21%)

5. **Mansouri, B.,** Zanibbi, R., Oard, D. W., & Agarwal, A. (2021). Overview of ARQMath-2 (2021): Second CLEF Lab on Answer Retrieval for Questions on Math. In International Conference and Labs of the Evaluation Forum (pp. 215-238). Springer, Cham.

6. Zanibbi, R., Oard, D. W., Agarwal, A., & **Mansouri, B.** (2020). Overview of ARQMath 2020: CLEF lab on answer retrieval for questions on math. In International Conference and Labs of the Evaluation Forum (pp. 169-193). Springer, Cham.

7. **Mansouri, B.**, Zanibbi, R., & Oard, D. W. (2019). Characterizing searches for mathematical concepts. In 2019 ACM/IEEE Joint Conference on Digital Libraries (JCDL) (pp. 57-66). IEEE. (acceptance rate: 30%)

8. **Mansouri, B.**, Rohatgi, S., Oard, D. W., Wu, J., Giles, C. L., & Zanibbi, R. (2019). Tangent-CFT: An embedding model for mathematical formulas. In Proceedings of the 2019 ACM SIGIR International Conference on Theory of Information Retrieval (ICTIR) (pp. 11-18). (acceptance rate: 49%)

9. Zahedi, M. S., **Mansouri, B.**, Moradkhani, S., Farhoodi, M., & Oroumchian, F. (2017). How questions are posed to a search engine? An empirical analysis of question queries in a large scale Persian search engine log. In 3rd International Conference on Web Research (ICWR) (pp. 84-89). IEEE.

10. Zahedi, M. S., **Mansouri, B.**, Farhoodi, M., & Moradkhani, S. (2016). Automatic web query classification for the Persian language. In Eight Information and Knowledge Technology (IKT).

Short and Demonstration Papers (Peer-Reviewed Conference Papers)

11. **Mansouri, B.**, Oard, D. W., & Zanibbi, R. (2022). Contextualized Formula Search Using Math Abstract Meaning Representation. In Proceedings of the 31st ACM International Conference on Information & Knowledge Management (pp. 4329-4333).

12. **Mansouri, B.**, Agarwal, A., Oard, D. W., & Zanibbi, R. (2021). Advancing Math-Aware Search: The ARQMath-2 Lab at CLEF 2021. In European Conference on Information Retrieval (pp. 631-638). Springer, Cham.

13. Diaz, Y., Nishizawa, G., **Mansouri, B.**, Davila, K., & Zanibbi, R. (2021). The MathDeck Formula Editor: Interactive Formula Entry Combining LaTeX, Structure Editing, and Search. In Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems (pp. 1-5)

14. **Mansouri, B.**, Agarwal, A., Oard, D. W., & Zanibbi, R. (2020). Finding Old Answers to New Math Questions: The ARQMath Lab at CLEF 2020. In Proc. European Conference on Information Retrieval (pp. 564-571). Springer, Cham.

15. **Mansouri, B.**, Zahedi, M. S., Campos, R., & Farhoodi, M. (2018). Online job search: Study of users' search behavior using search engine query logs. In The 41st International ACM SIGIR Conference on Research & Development in Information Retrieval (pp. 1185-1188). (acceptance rate: 30%)

16. **Mansouri, B.**, Zahedi, M. S., Rahgozar, M., Oroumchian, F., & Campos, R. (2017). Learning temporal ambiguity in web search queries. In Proceedings of the 2017 ACM on Conference on Information and Knowledge Management (CIKM) (pp. 2191-2194). (acceptance rate: 30%)

17. **Mansouri, B.**, Zahedi, M. S., Rahgozar, M., & Campos, R. (2017). Detecting seasonal queries using time series and content features. In Proceedings of the ACM SIGIR International Conference on Theory of Information Retrieval (ICTIR) (pp. 297-300). (acceptance rate: 58%)

Workshop and Evaluation and System Description Papers (Peer-Reviewed Papers)

18. **Mansouri, B.**, Durgin, S., Franklin, S., Fletcher, Sean., Campos, R. AIIR and LIAAD Labs Systems for CLEF 2023 SimpleText. In Working Notes of CLEF 2023-Conference and Labs of the Evaluation Forum.

19. **Mansouri, B.**, Campos, R., & Jatowt, A. (2023). Towards Timeline Generation with Abstract Meaning Representation. TempWeb Workshop in Companion Proceedings of the 2019 World Wide Web Conference.

20. **Mansouri, B.**, Campos, R. (2023) FALQU: Finding Answers to Legal Questions. LegalIR workshop at ECIR.

21. **Mansouri, B.,** Oard, D. W., & Zanibbi, R. (2022). DPRL Systems in the CLEF 2022 ARQMath Lab: Introducing MathAMR for Math-Aware Search. In Working Notes of CLEF 2022-Conference and Labs of the Evaluation Forum.

22. Langsenkamp, M., **Mansouri, B.,** & Zanibbi, R. (2022). Expanding Spatial Regions and Incorporating IDF for PHOC-Based Math Formula Retrieval at ARQMath-3. In Working Notes of CLEF 2022-Conference and Labs of the Evaluation Forum.

23. **Mansouri, B.,** Oard, D. W., & Zanibbi, R. (2021). DPRL Systems in the CLEF 2021 ARQMath Lab: Sentence-BERT for Answer Retrieval, Learning-to-Rank for Formula Retrieval. In Working Notes of CLEF 2021-Conference and Labs of the Evaluation Forum.

24. Avenoso, R., **Mansouri, B.**, & Zanibbi, R. (2021). XY-PHOC Symbol Location Embeddings for MathFormula Retrieval and Autocompletion. In Working Notes of CLEF 2021-Conference and Labs of the Evaluation Forum.

25. **Mansouri, B.,** Oard, D. W., & Zanibbi, R. (2020). DPRL Systems in the CLEF 2020 ARQMath Lab. In Working Notes of CLEF 2020-Conference and Labs of the Evaluation Forum.

26. Gandhi, S., **Mansouri, B.**, Campos, R., & Jatowt, A. (2020). Event-related query classification with deep neural networks. TempWeb Workshop in Companion Proceedings of the Web Conference 2020 (pp. 324-330).

27. **Mansouri, B.**, Sadegh Zahedi, M., Campos, R., & Farhoodi, M. (2019). Exploring video game searches on the web. TempWeb Workshop in Companion Proceedings of the 2019 World Wide Web Conference (pp. 1161-1170).

28. **Mansouri, B.**, Zahedi, M. S., Campos, R., Farhoodi, M., & Rahgozar, M. (2018). ParsTime: Rule-Based Extraction and Normalization of Persian Temporal Expressions. In European Conference on Information Retrieval (pp. 715-721). Springer, Cham. (acceptance rate: 35%)

29. **Mansouri, B.**, Zahedi, M. S., Campos, R., Farhoodi, M., & Yari, A. (2018). Understanding the use of Temporal Expressions on Persian Web Search. TempWeb Workshop in Companion Proceedings of The Web Conference 2018 (pp. 1743-1748).

30. **Mansouri, B.**, Zahedi, M. S., Campos, R., Farhoodi, M., & Rahgozar, M. (2018). Understanding User's Search Behavior towards Spiky Events. TempWeb Workshop in Companion Proceedings of The Web Conference 2018 (pp. 1763-1769).

Other Publications

31. **Mansouri, B.,** Oard, D. W., Agarwal, A., & Zanibbi, R. (2021). Effects of context, complexity, and clustering on evaluation for math formula retrieval. arXiv preprint, arXiv:2111.10504.

32. **Mansouri, B.** (2021). Embedding Formulae and Text for Improved Math Retrieval. In Proceedings of the 44th International ACM SIGIR Conference on Research and Development in Information Retrieval (pp. 2700-2700). (Doctoral Consortium, Abstract)

33. Zanibbi, R., **Mansouri, B**., Agarwal, A., & Oard, D. W. (2021). ARQMath: a new benchmark for math-aware CQA and math formula retrieval. In *ACM SIGIR Forum* (Vol. 54, No. 2, pp. 1-9).

34. Campos, R., et al. (2021, December). Report on the 4th international workshop on narrative extraction from texts (Text2Story 2021) at ECIR 2021. In ACM SIGIR Forum (Vol. 55, No. 2, pp. 1-9).

35. Campos, R., Jorge, A. M., Jatowt, A., Bhatia, S., Pasquali, A., Cordeiro, J. P., Rocha, C., **Mansouri, B.**, & Santana, B. (2021, February). Report on the third international workshop on narrative extraction from texts (Text2Story 2020). In ACM SIGIR Forum (Vol. 54, No. 1, pp. 1-8).

Research Experience

- Director of Artificial Intelligence and Information Retrieval lab (AiirLab), University of Southern Maine, Portland, Maine, USA. (since August 2022)
- Research Assistant at the Document and Pattern Recognition Lab, Golisano College of Computing and Information Sciences, Rochester, NY, USA. (September 2018 - July 2022)
- Research Assistant at the Database Research Group Lab, Control and Intelligent Processing Center Of Excellence, School of Electrical and Computer Engineering, University of Tehran, Tehran, Iran. (September 2013 - September 2017)

Industry Experience

- Part-time Research Assistant, Web Analysis Project, Parsijoo search engine, Iran Telecommunication Research Center, Tehran, Iran (December 2016 - July 2017)

- Software Developer, Smart Meter Project, Mahar System, Tehran, Iran, (April 2012 - November 2015)

- Software Developer, Railway Monitoring Project, SAPAYA, Tehran, Iran, (May 2011 - September 2011)

Teaching Experience

- Database Systems, Fall 2023, University of Southern Maine
- Data Structures (and the lab), Fall 2023, University of Southern Maine
- Research Methods in Information Science, Fall 2023, University of Southern Maine
- Natural Language Processing (and the lab), Spring 2023, University of Southern Maine
- Data Structures (and the lab), Spring 2023, University of Southern Maine
- Introduction to Information Retrieval, Fall 2022, University of Southern Maine
- Structured Problem-Solving in Java (and the lab), Fall 2022, University of Southern Maine
- Teaching Assistant, "Information retrieval", Spring 2022, Richard Zanibbi (Rochester Institute of Technology)
- Teaching Assistant, "Information retrieval", Fall 2020, Richard Zanibbi (Rochester Institute of Technology)
- Teaching Assistant, "Information retrieval", Fall 2019, Richard Zanibbi (Rochester Institute of Technology)
- Teaching Assistant, "Advanced Database Systems", Fall 2016, Maseud Rahgozar (University of Tehran)
- Teaching Assistant, "Special Topics in Database Systems", Spring 2016, Maseud Rahgozar (University of Tehran)
- Teaching Assistant, "Advanced Graph Theory", Fall 2016, Behnam Bahrak (University of Tehran)
- Teaching Assistant, "Advanced Database Systems", Fall 2015, Maseud Rahgozar (University of Tehran)
- Teaching Assistant, "Special Topics in Database Systems", Spring 2015, Maseud Rahgozar (University of Tehran)
- Teaching Assistant, "Theory of Language and Automata", Fall 2013, Ramak Ghavamizadeh (Shahid Beheshti University)
- Teaching Assistant, "Database Systems", Fall 2013, Hasan Haghighi (Shahid Beheshti University)
- Chief Teaching Assistant, "Introduction to Programming", Fall and Spring 2012, Ahmad Mahmoudi Aznaveh (Shahid Beheshti University)
- Chief Teaching Assistant, "Introduction to Programming", Fall and Spring 2011, Ahmad Mahmoudi Aznaveh (Shahid Beheshti University)
- Teacher, Computer Programming, Iranian Institute of Computer, Tehran, Iran (April 2009 - May 2014)

Services

- PC member at ACM SIGIRAP 2023
- PC member at ACM CIKM 2023, Resource Paper Track
- PC member at ACM SIGIR 2023

- PC member at Joint Conference on Digital Libraries 2023
- PC member at the TempWeb 2023 workshop, The Web Conference
- PC member at European Conference on Information Retrieval 2023
- Reveiwer at Text2Story workshop at European Conference on Information Retrieval 2023
- Dissemination Chair of Text2Story workshop at European Conference on Information Retrieval 2023
- PC member at Joint Conference on Digital Libraries 2022
- PC member at the TempWeb 2022 workshop, The Web Conference
- PC member at ACM SIGIR 2022
- Co-Organizer of ARQMath lab at Conference and Labs of the Evaluation Forum 2022
- Dissemination Chair of Text2Story workshop at European Conference on Information Retrieval 2022
- PC member at European Conference on Information Retrieval 2022
- Reviewer at Empirical Methods in Natural Language Processing 2021
- PC member in Joint Conference on Digital Libraries 2021
- PC member at European Conference on Information Retrieval 2021
- Co-Organizer of ARQMath lab at Conference and Labs of the Evaluation Forum 2021
- Dissemination Chair of Text2Story workshop at European Conference on Information Retrieval 2021
- PC member at the TempWeb 2021 workshop, The Web Conference
- Reviewer at Transactions on Knowledge and Data Engineering, 2021
- Co-Organizer of ARQMath lab at Conference and Labs of the Evaluation Forum 2020
- Dissemination Chair of Text2Story workshop at European Conference on Information Retrieval 2020
- Reviewer at ML4PS 2020: NeurIPS 2020 workshop on Machine Learning and the Physical Sciences
- PC member in Joint Conference on Digital Libraries 2020
- PC member at European Conference on Information Retrieval 2020
- Reviewer at ML4PS 2019: NeurIPS 2019 workshop on Machine Learning and the Physical Sciences
- Reviewer at The Eleventh International Conference on Advances in Databases, Knowledge, and Data Applications (DBKDA) 2019
- Reviewer at the LangChange workshop at the Association for Computational Linguistics (ACL) 2019
- PC member at European Conference on Information Retrieval 2019
- Reviewer at the International Conference on Web Research (ICWR) 2018

References

Prof. Richard Zanibbi, https://www.cs.rit.edu/~rlaz, rxzvcs@rit.edu
Prof. Douglas W. Oard, https://terpconnect.umd.edu/~oard/, oard@umd.edu
Prof. Ricardo Campos, http://www.ccc.ipt.pt/~ricardo/, ricardo.campos@ipt.pt