

# Mohammad Aliannejadi

Science Park 904  
1098 XH Amsterdam  
✉ [m.aliannejadi@uva.nl](mailto:m.aliannejadi@uva.nl)  
🌐 <http://aliannejadi.com>

## Education

- 2019-present **Post-doctoral Researcher**, *University of Amsterdam*, Amsterdam, The Netherlands.
- 2015-2019 **Doctor of Philosophy**, *Università della Svizzera italiana*, Lugano, Switzerland, Advisor: Fabio Crestani.  
Project: Modeling User Information Needs on Mobile Devices – from Recommendation to Conversation
- 2018-2019 **Visiting Scholar**, *Center for Intelligent Information Retrieval (CIIR), University of Massachusetts*, Amherst, MA, USA, Advisor: W. Bruce Croft.  
Project: Asking Clarifying Questions in Conversational Search Systems
- 2011-2014 **Master of Science**, *Amirkabir University of Technology (Tehran Polytechnic)*, Tehran, Iran.  
Major: Computer Engineering, Minor: Artificial Intelligence
- 2006-2011 **Bachelor of Science**, *Hamedan University of Technology*, Hamedan, Iran.  
Major: Computer Engineering, Minor: Hardware

## Research Interests

Information Retrieval, Crowdsourcing, and Conversational Search  
Natural Language Processing and Text Mining  
Data Mining, Recommender Systems, and Machine Learning

## Publications

### Journal Articles

- 2019 **A Joint Two-Phase Time-Sensitive Regularized Collaborative Ranking Model for Point of Interest Recommendation**, *M. Aliannejadi, D. Rafailidis and F. Crestani*, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 32(6): 1050-1063 (2020).
- 2018 **Personalized Context-Aware Point of Interest Recommendation**, *M. Aliannejadi and F. Crestani*, *ACM Transactions on Information Systems (TOIS)*, 36(4), 45:1-45:28 (2018).
- 2014 **Improved Churn Prediction In Telecommunication Industry Using Data Mining Techniques**, *A. Keramati, R. Jafari-Marandi, M. Aliannejadi, I. Ahmadian, M. Mozaffarian and U. Abbasi*, *Elsevier Journal on Applied Soft Computing*, 24, 994-1012 (2014).

### Conference Papers

- 2021 **Somewhere over the Rainbow: Exploring the Sense of Children for Relevance**, *M. Landoni, T. Huibers, E. Murgia, M. Aliannejadi, M. Pera*, European Conference on Cognitive Ergonomics (**ECCE**), 2021, Siena, Italy.
- 2020 **Say it with Emojis: Co-designing Relevance Cues for Searching in the Classroom**, *M. Aliannejadi, T. Huibers, M. Landoni, E. Murgia, M. Pera*, Joint Conference of the Information Retrieval Communities in Europe (**CIRCLE**), 2020, Samatan, Gers, France.
- 2020 **Analysing the Effect of Clarifying Questions on Document Ranking in Conversational Search**, *AM. Krasakis, M. Aliannejadi, N. Voskarides, E. Kanoulas*, International Conference on the Theory of Information Retrieval (**ICTIR**), 2020, Stavanger, Norway.
- 2020 **Harnessing Evolution of Multi-Turn Conversations for Effective Answer Retrieval**, *M. Aliannejadi, M. Chakraborty, E. A. Rissola, and F. Crestani*, ACM SIGIR Conference on Human Information Interaction and Retrieval (**CHIIR**), 2020, Vancouver, Canada, pages 33-42.
- 2020 **Beyond Modelling: Understanding Mental Disorders in Online Social Media**, *E. A. Rissola, M. Aliannejadi, F. Crestani*, European Conference on Information Retrieval (**ECIR**), 2020, Lisbon, Portugal, pages 296-310.
- 2020 **Joint Geographical and Temporal Modeling based on Matrix Factorization for Point-of-Interest Recommendation**, *H. A. Rahmani, M. Aliannejadi, M. Baratchi, and F. Crestani*, European Conference on Information Retrieval (**ECIR**), 2020, Lisbon, Portugal, pages 205-219.
- 2020 **ANTIQUÉ: A Non-Factoid Question Answering Benchmark**, *H. Hashemi, M. Aliannejadi, H. Zamani, and W. B. Croft*, European Conference on Information Retrieval (**ECIR**), 2020, Lisbon, Portugal, pages 166-173.
- 2020 **A Tool for Conducting User Studies on Mobile Devices**, *L. Costa, M. Aliannejadi, and F. Crestani*, ACM SIGIR Conference on Human Information Interaction and Retrieval (**CHIIR**), 2020, Vancouver, Canada, pages 462-466.
- 2019 **Asking Clarifying Questions in Open-Domain Information-Seeking Conversations**, *M. Aliannejadi, H. Zamani, F. Crestani, and W. B. Croft*, International Conference on Research and Development in Information Retrieval (**SIGIR**), 2019, Paris, France, pages 475-484.
- 2019 **Understanding Mobile Search Task Relevance and User Behaviour in Context**, *M. Aliannejadi, M. Harvey, L. Costa, M. Pointon, and F. Crestani*, ACM SIGIR Conference on Human Information Interaction and Retrieval (**CHIIR**), 2019, Glasgow, Scotland, UK, pages 143-151.
- 2019 **Incorporating Hierarchical Domain Information to Disambiguate Very Short Queries**, *H. Bonab, M. Aliannejadi, J. Foley, J. Allan*, International Conference on the Theory of Information Retrieval (**ICTIR**), 2019, Santa Clara, California, USA, pages 173-176.

- 2019 **Category-Aware Location Embedding for Point-of-Interest Recommendation**, *H. A. Rahmani, M. Aliannejadi, R. Mirzaei Zadeh, M. Baratchi, M. Afsharchi, F. Crestani*, International Conference on the Theory of Information Retrieval (**ICTIR**), 2019, Santa Clara, California, USA, pages 51-54.
- 2019 **LGLMF: Local Geographical based Logistic Matrix Factorization Model for POI Recommendation**, *H. A. Rahmani, M. Aliannejadi, S. Ahmadian, M. Baratchi, M. Afsharchi, F. Crestani*, Asia Information Retrieval Societies Conference (AIRS), 2016, Beijing, China, pages 212-223.
- 2018 **In Situ and Context-Aware Target Apps Selection for Unified Mobile Search**, *M. Aliannejadi, H. Zamani, F. Crestani, and W. B. Croft*, International Conference on Information and Knowledge Management (**CIKM**), 2018, Turin, Italy, pages 1383-1392.
- 2018 **Target Apps Selection: Towards a Unified Search Framework for Mobile Devices**, *M. Aliannejadi, H. Zamani, F. Crestani, and W. B. Croft*, International Conference on Research and Development in Information Retrieval (**SIGIR**), 2018, Ann Arbor, Michigan, USA, pages 215-224.
- 2018 **A Collaborative Ranking Model with Multiple Location-based Similarities for Venue Suggestion**, *M. Aliannejadi, D. Rafailidis, and F. Crestani*, International Conference on the Theory of Information Retrieval (**ICTIR**), 2018, Tianjin, China, pages 19-26.
- 2017 **Venue Appropriateness Prediction for Personalized Context-Aware Venue Suggestion**, *M. Aliannejadi and F. Crestani*, International Conference on Research and Development in Information Retrieval (**SIGIR**), 2017, Tokyo, Japan, pages 1177-1180.
- 2017 **Personalized Keyword Boosting for Venue Suggestion based on Multiple LBSNs**, *M. Aliannejadi, D. Rafailidis, and F. Crestani*, European Conference on Information Retrieval (**ECIR**), 2017, Aberdeen, Scotland, pages 291-303.
- 2013 **Discriminative Spoken Language Understanding Using Statistical Machine Translation Alignment Methods**, *M. Aliannejadi, S. Khadivi, S. Shiry Ghidary, and M.H. Bokaei*, International Symposium on Artificial Intelligence and Signal Processing (AISP), 2013, Tehran, Iran, pages 194-202.
- [Peer-reviewed Workshop Papers & Technical Reports](#)
- 2020 **ConvAI3: Generating Clarifying Questions for Open-Domain Dialogue Systems (ClariQ)**, *M. Aliannejadi, J. Kiseleva, A. Chuklin, J. Dalton, M. Burtsev*, Workshop on Search Oriented Conversational AI (SCAI) at EMNLP '20, Dominican Republic.
- 2020 **Longformer for MS MARCO Document Re-ranking Task**, *I. Sekulic, A. Soleimani, M. Aliannejadi, F. Crestani*, arXiv abs/2009.09392.
- 2020 **A Canine Census to Develop Public Policy**, *M. Apa, M. Cecilia Faini, M. Aliannejadi, and MS. Pera*, epiDAMIK 3.0: The 3rd International workshop on Epidemiology meets Data Mining and Knowledge discovery, San Diego, CA, USA.

- 2020 **On Estimating the Training Cost of Conversational Recommendation Systems**, *S. Antaris, D. Rafailidis, M. Aliannejadi*, arXiv abs/2011.05302.
- 2018 **Venue Suggestion Using Social-Centric Scores**, *M. Aliannejadi and F. Crestani*, Workshop on Social Aspects in Personalization and Search (SoAPS) at ECIR'18, Grenoble, France.
- 2016 **Venue Appropriateness Prediction for Contextual Suggestion**, *M. Aliannejadi, I. Mele, F. Crestani*, Text REtrieval Conference (TREC), 2016, Gaithersburg, Maryland, USA.
- 2015 **University of Lugano at TREC 2015: Contextual Suggestion and Temporal Summarization Tracks**, *M. Aliannejadi, SA. Bahrainian, A. Giachanou, F. Crestani*, Text REtrieval Conference (TREC), 2015, Gaithersburg, Maryland, USA.
- 2014 **Graph-Based Semi-Supervised Conditional Random Fields For Spoken Language Understanding Using Unaligned Data**, *M. Aliannejadi, M. Kiaeeha, S. Khadivi and S. Shiry Ghidary*, Australasian Language Technology Workshop (ALTW), 2014, Melbourne, Australia, pages 98-103.

## Honors and Awards

- 2016 Ranked **first** in the Contextual Suggestion Track, TREC 2016
- 2015 Ranked **first** in the Contextual Suggestion Track, TREC 2015
- 2016-present I have received 11 different research and travel grants.

## Invited Talks

### Seminars

- 2020 **User-Centered System Design in Information Retrieval**, *Invited Talk*, University of Massachusetts, Amherst, Amherst, MA, USA.
- 2019 **Towards Unified Mobile Search**, *Invited Webinar*, University Of Zanjan, Zanjan, Iran.
- 2019 **Towards Unified Mobile Search**, *Invited Talk*, L3S Research Center, Leibniz University, Hannover, Germany.
- 2019 **Exploring Combination of Multimodal Relevance Scores for Contextual Suggestion**, *Invited Talk*, GESIS, Leibniz Institute for the Social Sciences Unter Sachsenhausen, Cologne, Germany.
- 2018 **Target Apps Selection for Unified Mobile Search**, *Invited Talk*, Tsinghua University, Beijing, China.
- 2018 **Personalized Context-Aware Venue Suggestion**, *Invited Talk*, University of Udine, Udine, Italy.
- 2017 **Personalized Keyword Boosting for POI Recommendation**, *Invited Talk*, Institut de Recherche en Informatique de Toulouse (IRIT), Toulouse, France.

### Lectures

- 2020 **Representing Textual Data for Machine Learning**, *Invited Lecture*, University of Amsterdam, Amsterdam, Netherlands.

- 2020 **Crowdsourcing for Conversational Search Systems**, *Invited Lecture*, University of Amsterdam, Amsterdam, Netherlands.
- 2020 **Asking Clarifying Questions in Conversational Search Systems**, *Invited Lecture*, University of Amsterdam, Amsterdam, Netherlands.
- 2020 **Introduction to Conversational Search Systems**, *Invited Lecture*, University of Amsterdam, Amsterdam, Netherlands.
- 2019 **Context-awareness in Venue Recommendation**, *Invited Lecture*, Università della Svizzera italiana (USI), Lugano, Switzerland.
- 2018 **Crowdsourcing for Information Retrieval**, *Invited Lecture*, University of Massachusetts Amherst, Amherst, MA, USA.
- 2015 **Document Indexing and Retrieval Using Lucene**, *Invited Lecture*, Università della Svizzera italiana (USI), Lugano, Switzerland.
- 2015 **Introduction to Lucene**, *Invited Lecture*, Università della Svizzera italiana (USI), Lugano, Switzerland.
- 2010 **Introduction to Algorithms: Complexity**, *Invited Lecture*, Hamedan University of Technology, Hamedan, Iran.
- 2010 **Introduction to Formal Languages and Automata: Context-free Languages**, *Invited Lecture*, Hamedan University of Technology, Hamedan, Iran.

## Academic Services

### Peer Review

- 2018-present **Journal Reviewer.**
  - ACM Transactions on Information Systems (TOIS)
  - IEEE Transactions on Knowledge and Data Engineering (TKDE)
  - Information Processing and Management (IP&M)
  - Expert Systems (EXSY)
  - Expert Systems with Applications (ESWA)
  - Pattern Analysis and Applications (PAAA)
  - Royal Society Open Science (RSOS)
- 2018-present **PC Member.**
  - SIGIR 2018, 2020, 2021
  - WSDM 2021
  - CIKM 2020
  - TheWebConference 2020, 2021
  - ECIR 2020, 2021
  - EACL 2021
  - CAIR 2020
  - RuSSIR 2020
- 2015-present **External Reviewer.**
  - JCDL 2019
  - ECIR 2016, 2019
  - ICTIR 2017, 2018, 2019
  - ICADL 2017, 2018
  - CIKM 2017
  - KDD 2015

## Organization

- 2020 **MICROS Workshop Organizer**, *43rd European Conference on Information Retrieval*, Organizing workshop focusing on latest research and open issues on mixed-initiative conversational search..
- 2020 **Course on Conversational Search**, *The 2020 Russian Summer School in Information Retrieval (RuSSIR)*.
- 2020 **SCAI Challenge Chair and Organizer**, *The 2020 Conference on Empirical Methods in Natural Language Processing*, Proposed, defined, and collected related data to organize the challenge as part of the SCAI Workshop..
- 2019 **Student Grant Chair**, *The 10<sup>th</sup> CLEF Conference and Labs of the Evaluation Forum*, Università della Svizzera italiana (USI), Lugano, Switzerland.
- 2018-2019 **Local Organizer**, *The 10<sup>th</sup> CLEF Conference and Labs of the Evaluation Forum*, Università della Svizzera italiana (USI), Lugano, Switzerland.
- 2017-2019 **ACM SIGIR Student Liaison**, *Representing Europe and Africa*.
- 2017 **Publicity Chair**, *The 8<sup>th</sup> Italian Information Retrieval Workshop (IIR)*, Università della Svizzera italiana (USI), Lugano, Switzerland.
- 2015 **Co-Organizer**, *DBTA Workshop on Life Logging and Long-Term Digital Preservation*, Università della Svizzera italiana (USI), Lugano, Switzerland.

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## Experience

### Mentoring

- 2015-present **Thesis Co-supervision**, I co-supervised the thesis of several master students and one bachelor student. Most of the theses resulted in publications.

### Teaching

- 2015-present **Teaching Assistant**, *Università della Svizzera italiana*, Lugano, Switzerland.  
Teaching assistant for the following courses:
  - Information Retrieval
  - Databases
  - User Experience Design
  - Human-Computer Interaction Atelier
- 2010-2012 **Teaching Assistant**, *Hamedan University of Technology*, Hamedan, Iran.  
Teaching assistant for the following courses:
  - Advanced Programming: C++ Language
  - Data Structures
  - Introduction to Algorithms
  - Introduction to Formal Languages and Automata

### Professional

- 2014-2015 **.NET Developer**, *Batis Idea Processors Ltd.*, Tehran, Iran.  
Developed C# .NET component for sending and receiving email and fax, which was a part of a big project.
- 2009-2012 **Software Designer and Developer**, *Hushmandsazan Bisim Gharb*, Hamedan, Iran.  
Working with a team of Electrical Engineers, I did all the software design and development process to get a large Windows application integrated with the hardware designed for it.

## Programming Skills

### Tools

TensorFlow, Keras, NumPy, SciPy, Pandas, Seaborn, NLTK, Galago, RankLib, Terrier, Lucene, WEKA

### Languages

Expert Python, C, C++, C#

Intermediate MATLAB, Java, PHP, MySQL, SQL Server

Basic UML, HTML, Java, Javascript, Objective-C, Shell Script

## References

Available upon request.