

# Mohammad Aliannejadi

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## Education

- 2015-present **Doctor of Philosophy**, *Università della Svizzera italiana*, Lugano, Switzerland,  
Advisor: Fabio Crestani.  
Project: User Modeling for Mobile Information Access
- 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 and Recommender Systems  
Natural Language Processing and Text Mining  
Data Mining and Machine Learning

## Publications

### Conference Papers

- 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 (to appear).
- 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 **A Cross-Platform Collection for Contextual Suggestion**, *M. Aliannejadi, I. Mele, and F. Crestani*, International Conference on Research and Development in Information Retrieval (**SIGIR**) 2017, Tokyo, Japan, pages 1269-1272.
- 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.
- 2017 **Personalized Ranking for Context-Aware Venue Suggestion**, *M. Aliannejadi, I. Mele, and F. Crestani*, ACM Symposium on Applied Computing (SAC), 2017, Marrakesh, Morocco, pages 960-962.
- 2016 **User Model Enrichment for Venue Recommendation**, *M. Aliannejadi, I. Mele and F. Crestani*, Asia Information Retrieval Societies Conference (AIRS), 2016, Beijing, China, pages 212-223.
- 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.

#### 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**), (to appear).
- 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-Marandia, M. Aliannejadi, I. Ahmadian, M. Mozaffarian and U. Abbasi*, Elsevier Journal on Applied Soft Computing, 24, 994-1012 (2014).

#### Workshop Papers & Technical Reports

- 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
- 2019 Student Travel **Grant** for attending ACM SIGIR Conference on Human Information Interaction and Retrieval (CHIIR'19)
- 2018 Student Travel **Grant** for attending International Conference on Information and Knowledge Management (CIKM'18)
- 2018 Student Travel **Grant** for attending International Conference on the Theory of Information Retrieval (ICTIR'18)
- 2017 Student Travel **Grant** for attending ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR'17)
- 2017 Student Travel **Grant** for attending the Russian Summer School in Information Retrieval (RuSSIR'17)
- 2017 COST KEYSTONE Short-Term Scientific Missions (STSM) **Grant** for visiting IRIT, Toulouse, France
- 2016 Student Travel **Grant** for attending Lucence4IR Workshop
- 2016 Student Travel **Grant** for attending Asia Information Retrieval Societies Conference

## Invited Talks

- 2018 **Crowdsourcing for Information Retrieval**, *Invited Lecture*, University of Massachusetts Amherst, Amherst, MA, USA.
- 2018 **Unified Mobile Search**, *Invited Talk*, Tsinghua University, Beijing, China.
- 2018 **Personalized Context-Aware Venue Suggestion**, *Invited Talk*, University of Udine, Udine, Italy.
- 2017 **Keyword Boosting for POI Recommendation**, *Invited Talk*, Institut de Recherche en Informatique de Toulouse (IRIT), Toulouse, France.

## Academic Services

### Peer Review

- 2018-present **Journal Reviewer**.
- ACM Transactions on Information Systems (TOIS)
  - IEEE Transactions on Knowledge and Data Engineering (TKDE)
  - Elsevier Information Processing and Management (IP&M)

- 2018 **PC Member.**
- SIGIR 2018
- 2015-present **External Reviewer.**
- JCDL 2019
  - ECIR 2016, 2019
  - ICTIR 2017, 2018
  - ICADL 2017, 2018
  - CIKM 2017
  - KDD 2015
- Organization**
- 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-present **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 three 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.

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## PhD Thesis

- Title Modeling Context for Mobile Information Retrieval
- Advisor Fabio Crestani
- Description My PhD topic is mostly concerned with modeling users' context using their mobile phones. I have studied context under two different scenarios related to mobile information retrieval. First, people use their smartphones to check-in several venues. Here, the aim of the system is to model their context for a more effective venue recommendation. Second, after defining the task of unified mobile search, I concentrated on modeling users' app usage context for selecting relevant apps to a given user query on their smartphones.

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## Master Thesis

- Title *Language Understanding Using Semi-labeled Corpora in Robotics Applications*
- Advisor Saeed Shiry Gheidary, Shahram Khadivi
- Description The project follows completed research on spoken/formal language understanding using different machine learning approaches. I utilized graph-based semi-supervised conditional random fields (CRF) to train a spoken language understanding system using only 10% of the labeled data and improve the performance of the baseline models by the use of the unlabeled data.

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## 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

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## Languages

Persian: Native; English: Fluent; Italian: Intermediate level

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## Other Activities

- 2017-present Occasional photographer and sports journalist.
- 2015 Co-organizer of USI Board Games Events series, Università della Svizzera italiana (USI), Lugano, Switzerland
- 2009-2011 Chair of HUT Association of Film and Music, Hamedan University of Technology, Hamedan, Iran
- 2006-2009 Chair of HUT Students Association, Hamedan University of Technology, Hamedan, Iran