Mahsasadat Shahshahani

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Personal Information

- Nationality: Iranian
- Gender: Female
- Date of Birth: July 9, 1993

Education

2018
Doctor of Philosophy (Ph.D.) in Information Extraction and Retrieval, *University of Amsterdam*, Netherlands.
Thesis: Conversational Graph Search

2015 – 2018
Master of Science (M.Sc.) in Software Engineering, *University of Tehran*, Iran, *GPA:18.18/20* .
Thesis: Named Entity Recognition in Persian Texts

2011 – 2015
Bachelor of Science (B.Sc.) in Computer Engineering, *University of Tehran*, Iran, *GPA: 16.67/20* .
Undergraduate Thesis: Sampling Methods in Learning to Rank with Concentration on Persian Language.

2007 – 2011
Diploma Degree in Mathematics and Physics, *Farzanegan Amin High School, Nodet (National Organization of Exceptional Talents)*, Isfahan, Iran.
GPA:19.71/20

Research Interests

- Information Extraction
- Data Mining
- Information Retrieval
- Social Networks
- Natural Language Processing
- Data Science
- Machine Learning
- Recommender Systems

Research Experiences

2016
Graduate Research Assistant, *Natural Language Processing Lab, Director: Prof. Heshaam Faili*, University of Tehran, Iran.

2015
Graduate Research Assistant, *Intelligent Information Systems Lab, Director: Prof. Azadeh Shakery*, University of Tehran, Iran.

2014 – 2015
Undergraduate Research Assistant, *Intelligent Information Systems Lab*, University of Tehran, Iran.

Research Projects

2016

Mater Thesis: *Named Entity Recognition in Persian Texts*, *under supervision of Prof. Azadeh Shakery and Prof. Heshaam Faili.*

My thesis was partially funded by Iran Telecommunication Research Center (ITRC), as a part of **"Integration of Persian Natural Language Processing Tools"** *project. The current deployed version of our designed tool can be used via the URL:* **www.ner.ut.ac.ir**.

2014
2015

Undergraduate Thesis: *Sampling Methods in Learning to Rank with Concentration on the Persian Language*, *under supervision of Prof. Azadeh Shakery.*

I've investigated the performance of different sampling methods for constructing a Persian learning to rank dataset, using a Persian widely-used corpus, "Hamshahri".

2015
2016

ECIR-2017 Paper: *Dimension Projection among Languages based on Pseudo-relevant Documents for Query Translation"*.

Using top-ranked documents retrieved in response to a query of a user has been shown to be an effective approach to improve the quality of query translation in dictionary-based cross-language information retrieval. In this paper, we propose a new method for dictionary-based query translation based on dimension projection of embedded vectors from the pseudo-relevant documents in the source language to their equivalents in the target language.

2016
2017

ECIR-2018 Paper: **"Towards a Unified Supervised Approach for Ranking Triples of Type-like Relations"**.

Knowledge bases play crucial role in modern search engines and provide users with information about entities. A knowledge base may contain many facts (i.e., RDF triples) about an entity, but only handful of them are of significance for a searcher. Identifying and ranking these RDF triples are essential for various applications of search engines, such as entity ranking and summarization. In this paper, we present a unified supervised approach to rank triples for various type-like relations in knowledge bases. We evaluate our approach using the recently released test collections from the WSDM Cup 2017 and demonstrate the effectiveness of the proposed approach despite the fact that no relation-specific feature is used.

Publications

○ J. Dadashkarimi, **M. S. Shahshahani**, A. Tebbifakhr, H. Faili, and A. Shakery *"Dimension Projection among Languages based on Pseudo-relevant Documents for Query Translation"*. In Proc. of European Conference on Information Retrieval (ECIR) 2017.

○ **M. S. Shahshahani**, F. Hasibi, H. Zamani, and A. Shakery *"Towards a Unified Supervised Approach for Ranking Triples of Type-like Relations"*. In European Conference on Information Retrieval (ECIR) 2018.

Teaching Experiences

○ **Instructor**

Introduction to Python Programming (Spring 2017- Health Information Technology Student Scientific Association - Tehran University of Medical Sciences)

○ **Chief Teaching Assistant**
  - Theory of Formal Languages and Automata (Teacher: Hakimeh Fadaei)
○ **Teaching Assistant (Graduate Courses)**
  - Natural Language Processing (Teacher: Prof. Heshaam Faili)
  - Information Retrieval (Teacher: Prof. Azadeh Shakery)
  - Advanced Graph Theory (Teacher: Prof. Behnam Bahrak)
  - Advanced Algorithm (Teacher: Prof. Heshaam Faili)
○ **Teaching Assistant (Undergraduate Courses)**
  - Database Systems (Teacher: Prof. Azadeh Shakery)
  - Advanced Programming (Teacher: Prof. Mohammad Amin Sadeghi)
  - Internet Engineering (Teacher: Prof. Hossein Shafiei)
  - Artificial Intelligence (Teacher: Prof. Masoud Assadpour)
  - Introduction to Computing Systems and Programming (Teachers: Prof. Mahmoudreza Hashemi and Prof. Hadi Moradi)
  - Theory of Formal Languages and Automata (Teacher: Kazim Fouladi)

Honors Awards

2015 — **Ranked 19th among more than 30000 participants in "M.Sc. University Entrance Exam" (Software Engineering Field)**.

2015 — **Ranked top 10 among all students of B.Sc. in Computer Engineering**, *University of Tehran*, Iran.

2011 — **Ranked top 0.1 % among approximately 400000 participants in "Iran National University Entrance Exam"**.

2009 — **Ranked second in "Khwarizmi Robotics Competition"**, *Junior Soccer Robots League*, Tehran, Iran.

2009 — **Ranked third in "AUT Cup, "Amirkabir Robotics Competition**, *Junior Soccer Robots League*, Amirkabir University of Technology, Tehran.
Iran

2009 — **Ranked first in "Robocup Iran Open", International Robotics Competition** , *Junior Soccer Robots League*, Qazvin, Iran.

Work Experiences

2015 — **Android Developer**, *Demneh*, Tehran, Iran.

2014 — **Software Engineering Intern**, *Aratel Hooshmand Aftab*, Tehran, Iran.

2013 — **C# Developer**, *Hooshmand Pardaz Eyerik*, Isfahan, Iran.

Languages

Persian **Native**   *Mother Tongue*
English **Fluent**

○ *IELTS Scores: 7.5 (Reading:8.5, Listening:8, Speaking:6.5, Writing:6)*
○ *GRE Scores: Quantitative Reasoning: 168, Verbal Reasoning: 149, Analytical Writing: 3.5*

Arabic **Familiar**

German **Familiar**

Key Courses

○ Intelligent Information Retrieval
○ Natural Language Processing
○ Pattern Recognition
○ Data Mining
○ Statistical Inference and Data Analysis
○ Advanced Algorithms
○ Advanced Graph Theory
○ Advanced Database Systems
○ Game Theory
○ Operations Research (Optimization)
○ Human Computer Interaction

Programming Skills

Languages	Python,C#,Java, Ruby,C,C++,PHP,R	**Databases**	MySQL, SQLite,PostgreSQL
Frameworks	Ruby on Rails, Lucene, Lemur, Scikit-learn, OpenNMT		

Hobbies

○ Mountain climbing
○ Swimming
○ Learning ancient languages and scripts (For example: Pahlavi language, which is an Iranian ancient language)
○ Reading political and social science books