Hossein A. (Saeed) Rahmani

Web Intelligence Group (WI)
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Research Interests

Recommender Systems, Information Retrieval, Responsible IR, Natural Language Processing

Education

University College London (UCL), London, UK   Dec. 2022 - Nov. 2026 (*expected*)
Ph.D. in Computer Science
Thesis: Responsible IR, Conversational System, Recommender System
Supervisors: Prof. Emine Yilmaz and Nick Craswell

University of Zanjan, Zanjan, Iran   Sep. 2016 - Feb. 2020
M.Sc. in Computer Engineering, GPA: 18.04/20
Thesis: Context-aware Point-of-Interest Recommender System (Graded: 20/20)
Supervisors: Prof. Mohsen Afsharchi and Dr. Mitra Baratchi

Università della Svizzera italiana, Lugano, Switzerland   Sep. 2019 - Dec. 2019
Visiting Scholar, The Information Retrieval group (IR-USI)
Project: Joint Geographical and Temporal Point-of-Interest Recommender System
Advisor: Prof. Fabio Crestani

University of Zanjan, Zanjan, Iran   Sep. 2013 - Aug. 2016
B.Sc. in Computer Engineering, GPA: 16.95/20
Thesis: Comparison of Tumor and Normal Cells Protein-Protein Interaction using Graph Theory (Graded: 20/20)
Supervisor: Dr. Alireza Khanteymoori

Research Experiences

Visiting Researcher   Aug. 20201 - Nov. 2022
Web Intelligence Group (WI)
Computer Science Department, University College London (UCL)
Supervisors: Prof. Emine Yilmaz and Dr. Aldo Lipani

Visiting Researcher   Feb. 20201 - Jul. 2021
Information Systems Laboratory (SisInf Lab)
Facutly of Informatics, Politecnico di Bari
Supervisors: Dr. Yashar Deldjoo and Prof. Tommaso di Nioa

Research Assistant   Feb. 2017 - Feb. 2021
Multi-Agent Systems Laboratory (MASLab)
Department of Computer Engineering, University of Zanjan
Supervisor: Prof. Mohsen Afsharchi

Visiting Researcher   Sep. 2019 - Dec. 2019
Information Retrieval Group
Facutly of Informatics, Università della Svizzera italiana (USI)
Supervisor: Prof. Fabio Crestani

Undergraduate Research Assistant   Mar. 2014 - Dec. 2016
Machine Learning and Bioinformatics Laboratory (MLBL)
Department of Computer Engineering, University of Zanjan
Supervisor: Dr. Ali Reza Khanteymoori

Publications

Journal Articles

Mohammadmehdi Naghiaei, <u>Hossein A. Rahmani</u>, Yashar Deldjoo. **PyCPFair: A Framework for Consumer and Producer Fairness in Recommender Systems**, Software Impacts, 2022.

<u>Hossein A. Rahmani</u>, Yashar Deldjoo, Tommaso Di Noia. **The Role of Context Fusion on Accuracy, Beyond-Accuracy, and Fairness of Point-of-Interest Recommendation Systems**, Expert Systems with Applications (ESWA), 2022.

<u>Hossein A. Rahmani</u>, Mohammad Aliannejadi, Mitra Baratchi, Fabio Crestani. **Systematic Analysis on the Impact of Contextual Information on Point-of-Interest Recommendation**, ACM Transactions on Information Systems (TOIS), 2021.

Kosar S. Hosseinzade, <u>Hossein A. Rahmani</u>, Mohsen Afsharchi, Mohammad Aliannejadi. **Leveraging Social Influence based on Users Activity Centers for Point-of-Interest Recommendation**, Information and Processing Management (IP&M), 2021.

Mahdi Dehghan, <u>Hossein A. Rahmani</u>, Ahmad Ali Abin, Viet-Vu Vu. **Mining Shape of Expertise: A Novel Approach Based on Convolutional Neural Network**, Information Processing and Management Journal (IP&M), 2020.

Conference Papers

Mohammadmehdi Naghiaei, <u>Hossein A. Rahmani</u>, Mohammad Aliannejadi, Nasim Sonboli. **Towards Confidence-aware Calibrated Recommendation**, The 31st ACM International Conference on Information and Knowledge Management (CIKM '22), Atlanta, Georgia, USA, 2022.

<u>Hossein A. Rahmani</u>, Mohammadmehdi Naghiaei, Ali Tourani, Yashar Deldjoo. **Exploring the Impact of Temporal Bias in Point-of-Interest Recommendation**, The 16th ACM Conference on Recommender Systems (RecSys '22), Seattle, WA, USA, 2022.

Rikaz Rameez, <u>Hossein A. Rahmani</u>, Emine Yilmaz. **ViralBERT: A User Focused BERT-Based Approach to Virality Prediction**, The 30th ACM Conference on User Modeling, Adaptation and Personalization (UMAP '22), Barcelona, Spain, 2022.

<u>Hossein A. Rahmani</u>, Mohammadmehdi Naghiaei, Mahdi Dehghan, Mohammad Aliannejadi. **Experiments on Generalizability of User-Oriented Fairness in Recommender Systems**, The 45th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '22), Madrid, Spain, 2022.

Mohammadmehdi Naghiaei, <u>Hossein A. Rahmani</u>, Yashar Deldjoo. **CPFair: Personalized Consumer and Producer Fairness Re-ranking for Recommender Systems**, The 45th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '22), Madrid, Spain, 2022.

Mohammadmehdi Naghiaei, <u>Hossein A. Rahmani</u>, Mahdi Dehghan. **The Unfairness of Popularity Bias in Book Recommendation**, Third International Workshop on Algorithmic Bias in Search and Recom-

mendation (Bias@ECIR 2022), Stavanger, Norway, 2022.

<u>Hossein A. Rahmani</u>, Yashar Deldjoo, Ali Tourani, Mohammadmehdi Naghiaei. **The Unfairness of Active Users and Popularity Bias in Point-of-Interest Recommendation**, Third International Workshop on Algorithmic Bias in Search and Recommendation (Bias@ECIR 2022), Stavanger, Norway, 2022.

<u>Hossein A. Rahmani</u>, Jie Yang. **Demographic Biases of Crowd Workers in Key Opinion Leaders Finding**, CSCW 2021 Workshop - Investigating and Mitigating Biases in Crowdsourced Data, 2021.

<u>Hossein A. Rahmani</u>, Mohammad Aliannejadi, Mitra Baratchi, Fabio Crestani. **Joint Geographical and Temporal Modeling based on Matrix Factorization for Point-of-Interest Recommendation**, 42nd European Conference on Information Retrieval (ECIR), Lisbon, Portugal, 2020.

<u>Hossein A. Rahmani</u>, Yashar Deldjoo, Markus schedl. **A Regression Approach to Movie Rating Prediction using Multimedia Content and Metadata**, In Working Notes Proceedings of the MediaEval Workshop (MediaEval'19 working note), Nice, France, 2019.

<u>Hossein A. Rahmani</u>, Mohammad Aliannejadi, Sajad Ahmadian, Mitra Baratchi, Mohsen Afsharchi, Fabio Crestani. **LGLMF: Local Geographical based Logistic Matrix Factorization Model for POI Recommendation**, Asia Information Retrieval Societies Conference (AIRS), Hong Kong, China, 2019.

<u>Hossein A. Rahmani</u>, Mohammad Aliannejadi, Rasoul Mirzaei Zadeh, Mitra Baratchi, Mohsen Afsharchi, Fabio Crestani. **Category-Aware Location Embedding for Point-of-Interest Recommendation**, International Conference on the Theory of Information Retrieval (ICTIR), Santa Clara, California, USA, 2019.

<u>Hossein A. Rahmani</u>, Ali Reza Khanteymoori, Mohammad Olyaee. **Comparison of Tumor and Normal Cells Protein-Protein Interaction Network Parameters**, The 6th Iranian Conference on Bioinformatics, University of Tehran, Tehran, Iran, 2016.

Parisa Naderi Golshan, <u>Hossein A. Rahmani</u>, Shahrzad Azizi, Leila Safari. **A Study of Recent Contributions on Information Extraction**, The 4th Iranian Conference on Big Data processing, The University of Shahid Madani, Tabriz, Iran, 2018

Books

<u>Hossein A. Rahmani</u>. **Practical Learning of Operating Systems**, Vihan Press, 2017

Honors and Awards

UCL PhD Studentship 2022
UKRI CDT in Foundational AI, UCL, UK

School of Artificial Intelligence Scholarship 2021
School of AI, Pi School, Italy
Selected between more than 300 applications with 5% success chance

Student Registration Grant for attending CSCW 2021
Held Virtually

Student Registration Grant for attending CIKM 2021
Hosted in Gold Coast, Queensland, Australia

Third-rank Graduate Amongest MSc Students 2020

Department of Computer Engineering, University of Zanjan, Iran

Student Registration and Travel Grant for attending MediaEval Benchmark 2019
EUROCOM, Sophia Antipolis, France

Student Registration Grant for attending CLEF 2019
Università della Svizzera italiana, Switzerland

Selected for the Mobility Grant 2019
Zurich University of Applied Sciences (ZHAW), Switzerland
Selected between more than 150 applications with 8% success chance

Full Scholarship for the Data Science and Machine Learning Summer School 2019
Tehran Institute for Advanced Studies (TeIAS), Iran

Selected for the Data Science Winter School 2018
University of Bonn, Germany
Selected between more than 200 applications with 25% success chance

Third-rank Graduate Amongest BSc Students 2016
Department of Computer Engineering, University of Zanjan, Iran

Rankded 3rd in Technical University Olympiad 2013
Iran Technical and Vocational University

First-rank Graduate Amongst All Associate's Degrees Students 2013
Chamran Technical and Vocational College

Honorary Admission to Bachelor Program 2013
Computer Engineering, Technical University of Shiraz, Shiraz

Work Experiences

Research and Development Oct. 2021 - Continue
Virtual Manufacturing Inc., California, USA
Bias and Fairness in Machine Learning and Recommender Systems

Machine Learning Engineer Jul. 2021 - Oct. 2021
TVConal, Singapore, Singapore
Machine Learning and Information Retrieval

Research Scholar Apr. 2021 - June. 2021
Pi School, Room, Italy
Crowdsoursing, Expert Finding, and Information Retrieval

Data Scientist Apr. 2020 - Jan. 2021
Sanay Co., Zanjan, Iran
Recommender Systems and Information Retrieval

Thesis Co-supervision Feb. 2020 - Sep. 2020
University of Zanjan, Iran
Thesis of one master student and two bachelor students

External Collaborator Jan. 2019 - Jun. 2019
Leiden University, The Netherlands

Developing assignments for a new master's course (Urban Computing)

Big Data and Data Science Winter School Feb. 2018 - Feb. 2018
Certificate, Smart Data Analytics
University of Bonn, Bonn, Germany

Web Development Intern Jan. 2015 - Apr. 2015
IT Center, University of Zanjan, Iran

Teaching and Consulting Jul. 2010 - Jun. 2012
Ghalamchi Training Center, Golestan Province, Iran

Projects

Finding Key Opinion Leaders in Medical Specialties Apr. 2021 - Jul. 2021
Pi School, Rome, Italy

Power Electricity Data Analysis Jan. 2019 - Jun. 2019
Electricity Distribution Company, Zanjan, Iran

Academic Services

Program Committee:

- ECIR 2020

Conference Reviewer:

- ICMI 2019
- EMNLP 2022

Journal Reviewer:

- Journal of Intelligent Information Systems
- ACM Transaction on Information Systems (TOIS)
- Knowledge-Based Systems (KNOSYS)

External Reviewer:

- ECML/PKDD 2021
- WSDM 2021
- ECIR 2021
- SIGIR 2020
- Pattern Analysis and Applications (PAAA)
- Artificial Intelligence Review

Student Volunteer:

- CLEF 2019

Organizer:

- OpenTalks in Computer Engineering, University of Zanjan, Iran
- OUT+: Webinar Series, University of Zanjan, Iran

Teaching Experiences

Teaching Assistant, University College Lodnon (UCL)

- Information Retrieval and Data Mining, MSc   Winter 2023

Teaching Assistant, University of Zanjan

- Artificial Intelligence, BSc   Spring 2019
- Software Engineering, BSc   Fall 2018
- Software Engineering, BSc   Spring 2016
- Big Data, MSc   Spring 2016
- Scientific and Technical Presentation, BSc   Spring 2015
- Advanced Programming, BSc   Spring 2015
- Introduction to Programming, BSc   Spring 2014

Teaching Assistant, The Institute for Advanced Studies in Basic Sciences (IASBS)

- Software Engineering I, BSc   Fall 2016
- Software Engineering II, BSc   Winter 2017
- Software Engineering III, BSc   Spring 2017

Invited Talks

Personalized Context-Aware POI Recommendation   2019
Università della Svizzera italiana, Lugano, Switzerland

Complex Networks   2016
Department of Computer Engineering, University of Zanjan, Iran

R in Probabilistic   2016
Department of Computer Engineering, University of Zanjan, Iran

Technical Skills

Programming Languages
Python, Java, C#

Web Development
HTML, CSS, JavaScript, Bootstrap, WordPress

Tools
TensorFlow, Keras, NumPy, SciPy, Pandas, Seaborn, NLTK, Matplotlib, Flask, RESTful API

Database Systems
MS SQL Server, MySQL, SQLite, MongoDB

BigData Manipulation Tools
Hadoop, Spark, MapReduce, Hive, Neo4j

Language Skills

- Persian (Farsi): Native

- Tabari (Mazandarani): Fluent

- English: Fluent

References

Upon request.