

Alireza Salemi

Manning College of Information and Computer Sciences, University of Massachusetts, Amherst, MA, USA

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Education

University of Massachusetts Amherst

MSc/PhD in Computer Science

Massachusetts, USA

September 2022 - Current

- **Courses:** Information Retrieval, Computer Vision, Adv. Natural Language Processing
- GPA: 3.925/4.0

University of Tehran

BSc in Computer Engineering

Tehran, Iran

September 2017 - February 2022

- Ranked 1st among 103 Computer Engineering students
- GPA: 19.60/20 (4/4)

Interests

Natural Language Processing

Summarization, Translation, Text Generation, Hate Speech Detection, Visual Question Answering.

Neural Information Retrieval

Multi-modal Information Retrieval, Retrieval Enhanced Machine Learning, Dense Passage Retrieval.

Publications

LaMP: When Large Language Models Meet Personalization

Alireza Salemi, Sheshera Mysore, Michael Bendersky, Hamed Zamani

arXiv 2023

Pre-Training Multi-Modal Dense Retrievers for Outside-Knowledge Visual Question Answering

Alireza Salemi, Mahta Rafiee, Hamed Zamani

ICTIR 2023

A Symmetric Dual Encoding Dense Retrieval Framework for Knowledge-Intensive Visual Question Answering

Alireza Salemi, Juan Altmayer Pizzorno, Hamed Zamani

SIGIR 2023

PEACH: Pre-Training Sequence-to-Sequence Multilingual Models for Translation with Semi-Supervised Pseudo-Parallel Document Generation

Alireza Salemi, Amirhossein Abaskohi, Sara Tavakoli, Yadollah Yaghoobzadeh and Azadeh Shakery

LoResMT @ EACL 2023

ARMAN: Pre-training with Semantically Selecting and Reordering of Sentences for Persian Abstractive Summarization

Alireza Salemi, Emad Kebriaei, Ghazal Neisi Minaei and Azadeh Shakery

EMNLP 2021

UTNLP at SemEval-2021 Task 5: A Comparative Analysis of Toxic Span Detection using Attention-based, Named Entity Recognition, and Ensemble Models

Alireza Salemi, Nazanin Sabri, Emad Kebriaei, Behnam Bahrak and Azadeh Shakery

SemEval @ ACL-IJCNLP 2021

Research Experience

Research Assistant at the Center for Intelligent Information Retrieval

Under supervision of Hamed Zamani

University of Massachusetts Amherst

September 2022 - Current

- Worked on Retrieval Enhanced Machine Learning.
- Worked on Multi-modal Knowledge-intensive Tasks.
- Worked on Personalizing Large Language Models.

Research Assistant at Information Retrieval Laboratory

Under supervision of Azadeh Shakery and Yadollah Yaghoobzadeh

University of Tehran

January 2021 - September 2022

- Worked on designing a pre-training objective for multi-lingual language models.
- Worked on designing a pre-training objective for a summarization language model. The paper about this work was accepted to EMNLP 2021.

Research Assistant at Data Analysis Laboratory

Under supervision of Azadeh Shakery and Behnam Bahrak

University of Tehran

August 2020 - February 2021

- Worked on designing a system for annotating toxic (hate speech) spans of a piece of text. The paper about this work was accepted to SemEval @ ACL-IJCNLP 2021.

Research Assistant at Tehran Institute for Advanced Studies (TeIAS)

Under supervision of Mohammad Mousavi and Hossein Hojjat

Tehran, Iran

July 2020 - December 2020

- Worked on model learning for software product lines.

Research Assistant at Formal Methods Laboratory

Under supervision of Fatemeh Ghassemi Esfahani

University of Tehran

June 2020 - October 2020

- Worked on runtime enforcement decentralized algorithm that, given an automata-based specification of unwanted message sequences, prevents specific unwanted sequences from being sent.

Work Experience

Lowe's

Data Science Intern

North Carolina, USA

May 2023 - August 2023

- Worked on personalizing retrieval systems and language models using reinforcement learning by learning from language model's feedback as a signal for training retriever.

Sotoon

Natural Language Processing Data Scientist

Tehran, Iran

November 2021 - August 2022

- worked on a AutoML system for text classification, sentiment analysis of customer's reviews, and automatically accept/rejection of customers comments.

Achievements

2023	W. Bruce Croft Scholarship , Scholarship given to students whose research area is IR or NLP.	UMass Amherst
2022	UMass Amherst CICS Scholarship , Scholarship given to selected entering graduate students.	UMass Amherst
2021	Best Thesis Award in Computer Engineering , BSc thesis was selected as the best thesis in the computer engineering department	University of Tehran
2020	UT Sponsors Foundation Top Student , Selected as the top student at the computer engineering department.	University of Tehran
2020	University of Tehran Scholarship , Received scholarship from the UT Sponsors Foundation as an exceptional talent.	University of Tehran
2019	F.O.E (Faculty of Engineering) Award , Ranked 1 st among all of 103 Computer Engineering students.	University of Tehran
2019	UT Sponsors Foundation Top Student , Selected as the top student at the computer engineering department.	University of Tehran
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2017	University of Tehran Scholarship , Received scholarship from the UT Sponsors Foundation as an exceptional talent.	University of Tehran
2017	University Entrance Examination , Ranked 217 th (national) and 59 th (regional) among 148k candidates.	Iran

Teaching Experience

2020-2021	Artificial Intelligence , Head TA, Under supervision of Yadollah Yaghoobzadeh and Hakimeh Fadaei	University of Tehran
2020-2021	Programming Languages and Compiler Design , Head TA, Under supervision of Fatemeh Ghassemi	University of Tehran
2020-2021	The Theory of Formal Languages and Automata , TA, Under supervision of Hossein Hojjat.	University of Tehran
2020	Database Design , TA, Under supervision of Azadeh Shakery.	University of Tehran
2020	Design and Analysis of Algorithms , TA, Under supervision of Hamid Mahini.	University of Tehran
2019	Engineering Mathematics , TA, Under supervision of Mahdi Tale Masouleh.	University of Tehran

Invited Talks ---

May 2023 **When Large Language Models Meet Personalization**, Talk about LaMP benchmark and personalizing LLMs *Google Research*

Professional Services ---

TOIS Journal Reviewer for ACM Transactions on Information Systems

TKDE Journal Reviewer for IEEE Transactions on Knowledge and Data Engineering

Skills ---

Programming Python (Pandas, PyTorch, NumPy, Scikit-learn, Tensorflow, Keras, Transformers. etc.), R, C/C++, Java.

Databases MySQL, PostgreSQL, Neo4j, Redis, Elastic Search.

Soft Skills Time Management, Teamwork, Problem-solving, Fast-Learning.

Languages ---

English Fluent (TOEFL score: 113/120, Reading: 30, Listening: 28, Speaking: 26, Writing: 29)

Persian Native proficiency

Arabic Familiar

References available upon request.