

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.

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

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 1st 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

2019 **University of Tehran Scholarship**, Received scholarship from the UT Sponsors Foundation as an exceptional talent.

University of Tehran

2018 **UT Sponsors Foundation Top Student**, Selected as the top student at the computer engineering department.

University of Tehran

2018 **F.O.E (Faculty of Engineering) Award**, Ranked 1st among all of 103 Computer Engineering students.

University of Tehran

2018 **University of Tehran Scholarship**, Received scholarship from the UT Sponsors Foundation as an exceptional talent.

University of Tehran

2017 **University of Tehran Scholarship**, Received scholarship from the UT Sponsors Foundation as an exceptional talent.

University of Tehran

2017 **University Entrance Examination**, Ranked 217th (national) and 59th (regional) among 148k candidates.

Iran

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.