Sadegh Jafari

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RESEARCH Interests NLP, Social Media Analysing, Special-Purpose Chatbots, Empathetic multimodal conversational agents.

EDUCATION

Ghent University

Feb 2025 - Current

PhD. in Linguistics Advised by Prof. Veronique Hoste, Prof. Els Lefever, Prof. Tony Belpaeme

GPA: -

Project: An investigation into more empathic conversational AI.

Iran University of Science & Technology

Sep 2022 - Sep 2024

M.Sc. in Computer Science. Advised by Prof. Sauleh Eetemadi

GPA: **3.77**

Project: Psychological Health Chatbot using LLM.

Iran University of Science & Technology

Sep 2018 - Aug 2022

B.Sc. in Computer Science. Advised by Prof. Saeed Parsa

GPA: **3.76**

Project: Increasing the testability of the program by applying automatic refactoring to the program code.

Honors

- I placed **5th** in the LLM Hackathon competition, which was the first LLM competition in Iran, competing against nearly 1000 participants.
- IUST Computer Engineering class of top 10%.
- Top 0.4% in the national university entrance exam, Math and Physics Discipline.
- Paper reviewer for the ECAI 2024 conference.

PUBLICATIONS

Published

- H Amirzadeh, S, Jafari, A Harju, R van der Goot. 2024. data2lang2vec: Data Driven Typological Features Completion. COLING Conference.
- S, Jafari, F Farsi, N Ebrahimi, M Sajadi, S Eetemadi. 2024. *DadmaTools V2: an Adapter-Based Natural Language Processing Toolkit for the Persian Language*. COLING Conference (AbjadNLP).
- S, Jafari, E Zare, A Vishte, M Mirzae, Z Amiri, S Mohammadparast, S Eetemadi. 2024. *Psychological Health Chatbot, Detecting and Assisting Patients in their Path to Recovery.* COLING Conference(AbjadNLP).
- S, Jafari, M Farsouni Nezhad, M Nobakhtian, A Chaichi Mellatshahi and A Kazemeini. 2024. A Silent Voice: A Bilingual Longitudinal Analysis of Mahsa Amini's Movement Tweet?. IEEE ICDM Conference(SENTIRE workshop).

S, Jafari, M Mahmoodzadeh, V Nazari, R Bahmanyar, K Burrows. 2024. *DRAGON at FIGNEWS 2024 Shared Task: a Dedicated RAG for October 7th conflict News.* The Second Arabic Natural Language Processing Conference(Co-located with ACL 2024).

M Zakeri, S Parsa, S, Jafari. 2024. *Measuring and improving software testability at design level*. IST: Information and Software Technology journal

S, Jafari, A Fathi, A Hajizadegan, A Kazemeini, S Eetemadi. 2023. A longitudinal study about gradual changes in the Iranian Online Public Sphere pre and post of "Mahsa Moment": Focusing on Twitter. EMNLP Conference(LChange23 workshop).

RESEARCH EXPERIENCE

NLPnorth Lab, Computer Science department of the IT University of Copenhagen Apr 2023 - Aug 2024

Research Assistant under the supervision of Prof. Rob van der Goot

• We are working on a project to improve Lang2Vec, aiming to find an embedding for each language to enhance NLP models for low-resource languages. My role in the team is to identify the best model for missing values detection and perform feature selection for this task.

NLP Lab, Dept. of Computer Engineering, IUST Sep 2022 - Sep 2024 Research Assistant under the supervision of Prof. Sauleh Eetemadi

• I am a mentor of a group consisting of 5 bachelor's students. Our goal is to design a chatbot that can detect individuals in need of support from social media based on their posts and assist them on their path to recovery.

Data Mining Lab, IUST

Dec 2021 - Nov 2022

Research Assistant under the supervision of Prof. Behrouz Minaei Bidgoli

- Creating a Persian Named Entity Recognition (NER) dataset.
- Try to build an entity linker to link entities to Wikipedia pages.

Professional Experience

Dadmatech Company

Sep 2023 - Jan 2025

Project Manager and NLP Research Assistant

- I am working on Dadmatools, an open-source project for Natural Language Processing resources for the Persian language. Currently, I am utilizing the adapter method to build a pipeline for various NLP tasks.
- Working on various NLP projects required by other companies.

NetboxOfficial Company

Aug 2022 - Sep 2023

Python Developer

- Crawling film and music information from other websites.
- Write some Django APIs to retrieve music and film information from the database.
- Building a movie recommender system.
- Working on user behavior analysis to predict the time users spend on our application.

TahaTech Company

Jun 2021 - Mar 2022

Oracle Database Developer

• Designing a database to manage resources for some companies.

Natural Language Processing, Prof. Sauleh Eetemadi Fa 2023, Sp 2022 Teaching Fa 2022 EXPERIENCE

Deep Learning, Prof. Marzieh Davoodabadi

Database Design, Prof. Hossein Rahmani Sp 2022, Sp 2021, Fa 2020

Data Structures, Prof. Hossein Rahmani Fa 2023, Fa 2021 Compiler Design, Prof. Saeed Parsa Sp 2022, Fa 2021

Computer Architecture, Prof. Mohsen Soryani Fa 2021, Sp 2021, Fa 2020

Fundamentals of Computer Programming, Prof. Vahid Azhari Sp 2022

SKILLS Python Over 50 assignments for Computational $\approx 60k$ LOC

Intelligence, CV and working as a NLP

research assistant.

Keras $\approx 2k$ LOC 10 assignments and a project for NLP, Deep

Learning, and Neural Networks courses.

PyTorch 15 assignments and a project for NLP, Deep $\approx 20k$ LOC

Learning, and Neural Networks courses.

GIT Used for assignments and projects for 7 $\approx 2.5k$ Commits

semesters.

EXTRA ACTIVITIES Elected member of IUST CE Scientific Association (CESA). May 2023 - May 2024

> Managing a YouTube channel named NLPaper where I discuss in-June 2023 - Current teresting papers in the field of Natural Language Processing that I

have read.

References Dr. Veronique Hoste, Research director at LT3, Ghent University,

+3293311941, veronique.hoste@ugent.be

Dr. Els Lefever, Academic staff at LT3, Ghent University,

+3293311936, els.lefever@ugent.be

Dr. Sauleh Eetemadi, Assistant Professor of Computer Science, Iran University of Science & Technology,

+9873225342, sauleh@iust.ac.ir

Dr. Rob van der Goot, Assistant Professor of Computer Science, IT-University of

Copenhagen, robv@itu.dk

Dr. Behrouz Minaei Bidgoli, Professor of Computer Science, Iran University of

Science & Technology,

+9873225330, b_minaei@iust.ac.ir

Dr. Saeed Parsa, Associate Professor of Computer Science, Iran University of Sci-

ence & Technology,

+9873225314, parsa@iust.ac.ir