Mohammad AzariJafari

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May 8, 1992

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Education

- **M.Sc.**, Information Technology Engineering — University of Qom, Iran — 2017 - 2020
  Thesis: Use of Transfer Learning for Inference in Persian Language using English Language Data
  Supervisor: Dr. Hossein Amirkhani
  GPA: 19.18 / 20.00

- **B.Sc.**, Information Technology Engineering — Shahrood University of Technology, Iran — 2011 - 2016
  Project: Designing and Developing an Online Examination Website to Evaluate Students
  Supervisor: Dr. Ali Bazghandi

Teaching Experiences

- **Lecturer** — University of Qom, Iran — 2021 - 2022
  Teaching MATLAB programming basics course in Department of Engineering.

- **Course Instructor** — FaraDars Online Education Platform — 2019 - present
  Teaching web crawler design course with Python programming language. ↗

- **Teaching Assistant** — University of Qom, Iran — 2019 - 2021
  Teaching and supervising projects in Data Mining and Information Retrieval
  courses for multiple semesters in the Department of Computer Engineering.

- **Teaching Assistant** — Shahrood University of Technology, Iran — 2012 - 2016
  Teaching and supervising projects in 12 programming courses in the faculties
  of computer engineering, mechanical engineering, mathematics, and physics.

- **Teacher** — Dr. Hesabi Institute, Iran — 2010
  Teaching ICDL to high school students.

Honors & Awards

- Ranked 1, among master students of IT Engineering at University of Qom. — 2017 - 2020
- Ranked among top 2% in national university entrance exam in M.Sc. IT engineering. — 2017
- Accepted in national entrance exams of magnet schools at middle and high school. — 2003 & 2006
- Ranked 1, in the Student Mathematical Olympiad in Tehran province, Iran. — 2005

Research Interests

- Machine Learning   • Deep Learning   • Natural Language Processing   • Information Retrieval

Skills

- **Programming/Scripting**
  Python, Matlab, C/C++, Fortran, SQL, HTML, CSS

- **Libraries/Frameworks**
  Tensorflow, Keras, Sklearn, NLTK, BeautifulSoup, Selenium, NumPy, Pandas

- **Tools/Platforms**
  Google Colab, Jupyter Notebook, Visual Studio, SPSS, Power BI, WordPress, LaTeX, ICDL, Git

- **Languages**
  Persian, English

Publications

Journal papers

- **AzariJafari, M.**, Amirkhani, H. (2023).
  A Combined Approach of Ensemble Learning and Transfer Learning for Low-Resource Natural Language Inference.
  Expert Systems With Applications. (Under Review)

- Amirkhani, H., **AzariJafari, M.**, Faridan-Jahromi, S., Kouhkan, Z., Pourjafari, Z., & Amirak, A. (2023).
  FarsTail: a Persian natural language inference dataset.
  Soft Computing. ↗

Conference papers

- **AzariJafari, M.** (2021).
  A Survey on Word Embedding Techniques in Text Processing.
  8th International Conference on Innovative Technologies in Science, Engineering and Technology.
  Athens, Greece.

- **AzariJafari, M.**, Sadeghi, F., & Iranpour Mobarakeh, M. (2021).
  An Overview of Natural Language Inference Datasets in English Language.
  Fourth International Conference on Information Technology, Computer and Telecommunication Engineering.
  Tehran, Iran.

- **AzariJafari, M.** (2021).
  An Overview of Natural Language Inference Datasets in Low-Resource non-English languages.
  7th International Conference on Advance Research in Science Engineering & Technology.
  Dubai, United Arab Emirates.

- **AzariJafari, M.**, Sadeghi, F. (2021).
  Data Mining Applications in Intelligent Public Urban Transportation Systems: A Review and Proposed Solutions.
  Eleventh National Conference on Electrical, Computer and Mechanical Engineering.
  Shirvan, North Khorasan, Iran.

Highlighted Projects

- **Ensemble Learning for Low-Resource NLP**   2021 - present
  - Utilizing **Ensemble Learning** to enhance **low-resource** natural language processing results.
  - Designing an **innovative hybrid approach** to combine state-of-the-art NLP techniques.
  - The research findings are currently **under review** in a journal with an **impact factor of 8.5**.

- **Cross-Lingual Knowledge Transfer**   2020 - present
  - Use of **Transfer Learning** techniques to overcoming training data scarcity in NLP tasks.
  - knowledge transfer from a **data-rich** source language to a **data-poor** target language.
  - Enhancing NLP in low-resource languages through **cross-lingual** knowledge transfer.

- **Occupational Medical Data Analysis**   2021 - 2022
  - **Pattern recognition** in workers' medical data in an automobile manufacturing company.
  - Predicting workers' traumas through mining **frequent patterns** and **association rules**.
  - Guiding physicians in accurate **prevention, diagnosis, and treatment** of traumas.
  - Assisting managers in allocating safer workspaces to effectively prevent harm to workers.

- **ML-based Prediction of ICU Stay Length**   2020 - 2021
  - Employing **Machine learning** to predict ICU stay length and optimize hospital bed usage.
  - Enhancing Prediction accuracy using **Classification** and **Linear Regression** algorithms.

- **Data Analysis using SPSS**   2020
  - Utilizing **SPSS** for the analysis of experimental hospital data in a **teamwork study**.
  - Collaboration with gynecologists for the **statistical examination** of twin pregnancies.

- **Data Collection for Persian NLI Task**   2018 - 2020
  - Collecting the **First** Persian dataset for **Natural Language Inference (NLI)** task.
  - Developing an advanced method to generate 10,000+ high-quality **real-world** samples.
  - Publishing experimental results of prominent NLI models on FarsTail dataset in a **paper**.
  - The result of **teamwork** at University of Qom **Data Mining and Machine Learning Lab**.

- **Sentiment Analysis of Customer Reviews**   2019
  - Designing a **web scraper** to extract all customer reviews from an online store (DigiKala).
  - **Sentiment analysis** by classifying reviews into sentiment classes using pretrained models.
  - Utilizing **classification** and **regression** methods to predict customers' satisfaction rates.

- **Wikipedia Languages Dependency Analysis**   2017 - 2018
  - Developing a Wikipedia **web crawler** to create a **structured** dataset of articles' languages.
  - Identifying language dependencies by **classifying** articles into specific target languages.
  - Creating a **recommender system** to aid the website contributors in translating vital articles.

Work Experiences

- **Python Developer**   2019 - present
  Contributing in numerous freelance projects specifically in the fields of Data Science.
  (Machine Learning, Deep Learning, Pattern Recognition, Text Mining, etc.)

- **IT Specialist**   2017
  Inputting information into the system of General Department of Grain and Commercial Services.

- **Senior Programmer**   2013 - 2017
  Developing freelance projects C, C ++, MATLAB, Fortran, and Python programming languages.

Scientific Memberships

- **Data Science Researcher** — 2018 - present
  University of Qom Data Mining and Machine Learning Lab.

- **Continuous Member** — 2021 - 2022
  Iranian E-Commerce Scientific Association.

- **Continuous Member** — 2021 - 2022
  Iranian Society of Engineering Education (ISEE).

- **Coordination Committee Member** — 2018
  International Conference on Distributed Computing and High Performance Computing (DCHPC).

Referees

- **Dr. Hossein Amirkhani**

  Assistant Professor
  Department of Computer
  Engineering & IT
  University of Qom, Iran
  amirkhani@qom.ac.ir

- **Dr. Yaghoub Farjami**

  Associate Professor
  Department of Computer
  Engineering & IT
  University of Qom, Iran
  farjami@qom.ac.ir

- **Dr. Amir Jalaly Bidgoly**

  Assistant Professor
  Department of Computer
  Engineering & IT
  University of Qom, Iran
  jalaly@qom.ac.ir