Mohammad AzariJafari

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Education

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

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

Teaching Experiences

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

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

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

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

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

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. (In Press)

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 of Iran. 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

- **Knowledge Transfer** **2020 - present**
  Use of Transfer Learning techniques in Natural Language Processing tasks to compensate for the lack of labeled data. In this study, knowledge is transferred from large datasets of resource-rich languages to NLP models in resource-poor languages and improves the performance of these models.

- **The Health of Industrial Workers** **2021 - 2022**
  Pattern recognition in the data of the medical department of the automobile manufacturing company by predicting the workers' traumas of this industry by mining frequent patterns and association rules. By this method, doctors can diagnose traumas more accurately, and managers can plan better to determine workers' new job positions to prevent further injury.

- **Intensive Care Unit** **2020 - 2021**
  Collaborating on a research to predict the stay length of patients in the ICU to optimizing usage of hospital beds for emergency patients. In this research, classification and linear regression algorithms have been used.

- **Twin Pregnancies** **2020**
  Statistical analysis of experimental hospital data using SPSS. This collaboration was done in a study with a gynecology medical team to investigate the effect of non-invasive prenatal test to screen common trisomies in twin pregnancies.

- **FarsTail Dataset** **2018 - 2020**
  The first Persian dataset for Natural Language Inference (NLI) task containing more than 10,000 samples. This dataset has resulted from 22 months of teamwork at the University of Qom Data Mining and Machine Learning Lab. To ensure the dataset's quality, we have generated FarsTail samples in a way similar to the well-known international NLI datasets such as SciTail.

- **DigiKala Online Store** **2019**
  Designing a web scraper and executing on Digikala online store and extracting all customer reviews of each product. Classifying comments in sentiment classes by sentiment analysis tools and classical machine learning methods and also predicting the product's goodness by rating the interest and satisfaction of customers by regression methods.

- **Wikipedia Articles Languages** **2017 - 2018**
  Designing a particular web crawler on Wikipedia pages and executing it on a virtual server to extract the languages and categories of each article. Discovering the dependency of languages in different categories with classification methods in order to predict the needs of the audience of a particular language to translate an article into their native language.

Work Experiences

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

- **IT Specialist** **2017**
  General Department of Grain and Commercial Services of Tehran Province, Iran

- **Freelancer** **2013 - 2017**
  Developer of 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