# Mohammad AzariJafari

May 8, 1992
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## Education

- **M.Sc.**, Information Technology Engineering, University of Qom, Iran **2017 - 2020**
  Thesis Title: 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 Title: Designing and Developing an Online Examination Website to Evaluate Students
  Supervisor: Dr. Ali Bazghandi

## Scientific & Technical Experiences

- **Lecturer** **2021 - present**
  MATLAB programming basics lesson at University of Qom

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

- **Course Instructor** **2019 - present**
  Teaching web crawler design course with Python programming language in FaraDars institute, the largest online education platform in Iran and the Middle East

- **Teaching Assistant** **2019 - 2020**
  Learning web scraping design in 3 courses of storing and retrieving information from the web at the University of Qom

- **Data Science Researcher** **2018 - 2020**
  University of Qom Data Mining and Machine Learning Lab

- **Coordination committee member** **2018**
  International Conference on Distributed Computing and High Performance Computing (DCHPC2018)

- **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

- **Teaching Assistant** **2012 - 2016**
  12 programming courses in the faculties of computer engineering, mechanical engineering, mathematics, and physics at Shahrood University of Technology

- **Teacher** **2010**
  Tutoring physics in school

## Honors & Awards

- Ranked 1, among master students of Information Technology at University of Qom, Iran
- Ranked 307, among over 19,000 participants in Iranian nationwide university entrance exam for Master of Information Technology (2017)
- Accepted in the national entrance exams of the magnet schools in the middle school level (2003) and the high school level (2006)
- Ranked 1, in the Student Mathematical Olympiad in Tehran province, Iran (2005).

## Research Interests

My research interests are in data science, which mainly includes the following:

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

## Publications

- Amirkhani, H., **AzariJafari, M.**, Pourjafari, Z., Faridan Jahromi, S., Kouhkan, Z., & Amirak, A. (2020). Farstail: A Persian Natural Language Inference Dataset.
  arXiv preprint arXiv:2009.08820. (Under Review)

## Skills

**Programming/Scripting**

- Python
  - -Tensorflow
  - -Keras
  - -Sklearn
  - -NLTK
  - -BeautifulSoup
  - -Selenium
  - -NumPy
  - -Pandas
- MATLAB
- C
- C++
- Fortran
- SQL
- HTML
- CSS

**IDEs/Tools**

- Google Colab
- Jupyter Notebook
- Visual Studio
- Code::Blocks
- Torbo C++
- Dev-C++
- SPSS
- Power BI
- WordPress
- LaTeX
- ICDL

## Projects

Some of the projects I have worked on are listed below:

- **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**
  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 Python Package** **2020**
  Developing a Python package for the FarsTail dataset and place it on the Pypi website. This package allows non-Persian language researchers to be able to train NLI models on this dataset without knowing Persian.

- **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.

- **IMDB** **2019**
  Using deep learning and implementing a Neural Network for sentiment analysis on comments of each movie on the IMDB website and classifying user opinions in classes of positive and negative.

- **MAGIC Telescope** **2019**
  Separation of Gamma rays and Hadronic beams using classification methods and also using Ensemble Learning to integrate these methods. This project has been done on numerical and tabular data recorded by the Major Atmospheric Gamma Imaging Cherenkov Telescope (MAGIC).

- **Pima Indian Diabetes** **2019**
  Diabetes detection using clustering algorithms. The data set used in this project is related to the Pima Indian population of Arizona, which has one of the highest prevalence of diabetes of any population in the world.

- **BI Dashboard** **2018**
  Building a management and analytical dashboard using Microsoft Power BI on the customers' database, including name, age, gender, place of birth, purchase date, purchase amount, discount amount, purchased goods, etc.

- **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.

- **Retail Basket** **2017**
  Mining frequent patterns and association rules from customer transactions to manage and optimize the arrangement of the store goods, attract more customers, and increase store revenue.

- **University Management System** **2016**
  Designing and implementing of a console application for managing a university. This application has the ability to insert, delete and edit information of students, courses, grades, etc. The advanced search section of this app can work in lists of students, professors, and courses. Also, the section for receiving reports on the student's educational status, including the courses of each semester, the grade of each course, the grade point average of each semester, etc., is embedded in this app.

- **Smart Phonebook** **2014**
  Designing and implementing an smart phonebook as a console application. This app has Capabilities such as adding, deleting, and editing contacts. In addition, this app has an advanced search part for searching for contacts and sorting the list based on specific features.

- **Scientific Calculator** **2012**
  Implementing a scientific calculator without using ready-made libraries. This calculator has the ability to calculate the mathematical operations including sum, subtract, multiply, division, sine, cosine, tangent, cotangent, and also a combination of these operations.

## Volunteer Experience

- First Aid Instructor at Iranian Red Crescent Society **2020 - present**
- Member of the editorial board of "Red Moon" relief magazine in Qom Province, Iran **2019 - present**
- Rescuer at Iranian Red Crescent Society **2017 - present**