





# Amir Pourmand

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## Research Interests

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- ◇ Deep Learning
- ◇ Computer Vision
- ◇ Natural Language Processing
- ◇ Interpretability

## Education

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### Sharif University of Technology

Sep. 2020 - Present

*Master of Science in Artificial Intelligence and Robotics*

*Tehran, Iran*

- ◇ GPA: **18.83/20** or 4/4
- ◇ Relevant courses: Deep Learning (19.4/20), Natural Language Processing (19.4/20), Machine Learning (19.5/20), Statistical Machine Learning (19/20),
- ◇ Master's Project
  - ◇ Project Supervisor: [Prof. Hamid R. Rabiee](#)
  - ◇ Project Title: Real-time automatic Polyp detection and classification using interpretable AI (XAI)
  - ◇ Project Summary: We plan to use a semi-supervised learning framework, proposed by Google, to improve the YOLO algorithm's ability to handle both labeled and unlabeled data. In collaboration with Tehran University of Medical Sciences, we also aim to make the framework fully interpretable, as doctors prefer transparent models over blackbox ones.

### Yazd University

Sep. 2016 - Sep. 2020

*Bachelor of Science in Computer Engineering*

*Yazd, Iran*

- ◇ GPA: **17.47/20** or 3.66/4 , Units: 140
- ◇ Relevant courses (GPA: **19.95/20**): Intelligence and Expert systems (19.7/20), Foundations of Information Retrieval and Web Search (20/20), Fundamentals of Information Technology (20/20), Microprocessors and Assembly Language (20/20), Principles of Database Design (20/20), Internet Engineering (20/20)
- ◇ Bachelor's Project
  - ◇ Project Supervisor: [Prof. V. Derhami](#)
  - ◇ Project Title: A Recommendation System for shopping centers using Apriori Algorithm
  - ◇ Project Summary: We analyzed data from an SQL-Server database to find frequent item sets and compute metrics such as confidence and lift. These insights were then used to suggest products to customers.

### Malek Sabet High School

Sep 2012 - June. 2016

*Diploma in Physics and Mathematics Discipline*

*Yazd, Iran*

GPA: **19.49/20**, Units: 102, [Affiliation: Governmental leading high school](#)

## Honors and Awards

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- ◇ Ranked **1st** among over 16,000 graduate applicants in the Iranian National University Entrance Exam (Konkur) for M.Sc. of Computer Engineering in **7 (all CE) majors**, August 2020 (This rank is **unprecedented** in history of CE University entrance exam).
- ◇ **Silver Medal** in the 25th Scientific Olympiads for Iranian University Students in February 2021.
- ◇ Awarded a grant by National Elite Foundation for two semesters (1 year), October 2021.
- ◇ Ranked 1st in the 24th Scientific Olympiads for Iranian University Students in Region 6 and Ranked 16th in the country in 2019.
- ◇ Offered admission to M.Sc. program in Artificial Intelligence at Yazd University as a talented undergraduate student, August 2020.
- ◇ Ranked among the top 1 percent in the Iranian National University Entrance Exam (1896th among over 300,000 participants), June 2016.

## To Be Submitted Papers

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### Automatic Real-time Detection of Brain Aneurysm via Multi-View YOLOv5

Jun 2022 - Present

Sharif University of Technology, Tehran University of Medical Sciences

Supervisor: Prof. Hamid R. Rabiee

Description: This work will be submitted to arXiv within the next week or two. We developed a customized YOLOv5 algorithm for detecting brain aneurysms in 2.5D CT scans. I modified the network structure to take in multiple images for the same patient as a single input, allowing for more information to be utilized by the network.

## Academic Projects

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### Deep Learning

Aug 2021 - Jan 2022

Sharif University of Technology, <https://github.com/pourmand1376/DL-Homeworks>

Supervisor: Prof. Hamid Beigy

### Stochastic Process

Aug 2021 - Jan 2022

Sharif University of Technology, <https://github.com/pourmand1376/SP-Homeworks>

Supervisor: Prof. Hamid R. Rabiee

### Machine Learning

Jan 2021 - July 2021

Sharif University of Technology, <https://github.com/pourmand1376/ML-projects>

Supervisor: Dr. M. Rohban

### Statistical Machine Learning

Jan 2021 - July 2021

Sharif University of Technology, <https://github.com/pourmand1376/SML-projects>

Supervisor: Prof. Rabiee

### Digital Image Processing

Jan 2021 - July 2021

Sharif University of Technology, <https://github.com/pourmand1376/DIP-projects>

Supervisor: Prof. Kasaei

### Compiler and Parser

December 2019

Yazd University, <https://github.com/pourmand1376/Parser>

Supervisor: Dr. ZarePour

Description: Implementation of LL(0), LR(0), SLR(1), CLR(1) algorithms in C# from scratch.

### Web Crawler, Indexer and Search Engine Web Application

November 2018

Yazd University, <https://github.com/pourmand1376/Crawler>

Supervisor: Dr. A. Zareh

Description: Web Crawler fetches all sites from the seeds and crawls all other related links. The indexer prepares the data for immediate search from the search engine web application.

## Industrial Projects

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### Heart Rate Monitor Application (ECG)

July 2019 - Sep 2019

Yazd University

Supervisor: Prof. V. Derhami

Description: The app receives real-time data from a wireless ECG device via Bluetooth and displays it as a graph. However, some of the data was distorted or lost, making it difficult to consistently display it.

### Web application to manage invoice and account

January 2019 – March 2019

Amapardazesh Sepand Inc., Tavoni Etebar Kargaran Bafgh (Samen)

Supervisor: S. Tavakoli

Description: This web application provides a RESTful API for Android clients and an ASP.NET web application to show customers how much they owe the company.

### Car Management for IranKhodro

July 2013 – November 2013

Amapardazesh Sepand Inc., IranKhodro Yazd (4022 Branch - Farashahi)

Supervisor: S. Tavakoli

Description: My first encounter with any programming language was with this Windows-forms application that managed parking lots, controlled vehicle entrance and exit, and generated management reports.

## Open Source Contributions

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### Open source Crawler for Persian websites

July 2022

Link to repo: <https://github.com/pourmand1376/PersianCrawler>

Maintainer: Me

### Contributions to YOLOv5

July 2022

Link to repo: <https://github.com/ultralytics/yolov5>

Maintainer: Glenn Jocher

Description: I have solved a very important bug ([#9059](#)) and I have some PRs ([#8766](#), [#8694](#))

### Contributions to al-folio

June 2022

Link to repo: <https://github.com/alshedivat/al-folio>

Maintainer: Al-Shedivat

Description: My PRs ([#386](#), [#400](#), [#404](#), [#433](#), [#435](#), [#554](#)). Adding docker is the most important one([#532](#), [#754](#), [#767](#))

### Translating ShareX to Persian ([Link](#))

July 2019 – August 2019

Link to repo: <https://github.com/ShareX/ShareX>

Maintainer: Jaex

## Internships

### Web application for restaurant

*Amapardazesh Sepand Inc.*

**July 2018 – October 2018**

*Supervisor: S. Tavakoli*

Description: As well as developing a RESTful API service for Android devices, I built a dashboard (based on ASP.NET) for managers to customize the restaurant according to their preferences.

## Teaching Experiences

- ◇ Deep Learning ( Aug 2022 - Present ) Supervisor: Dr. Hamid Beigy
- ◇ Linear Algebra ( Aug 2022 - Present ) Supervisor: Prof. Hamid R. Rabiee
- ◇ Stochastic Processes for Bioinformatics ( Jan 2022 - July 2022 ) Supervisor: Dr. Mohammad H. Rohban
- ◇ Linear Algebra (Aug 2021 - Jan 2022) Supervisor: Prof. Hamid R. Rabiee
- ◇ Operating Systems Laboratory (Aug 2021 - Jan 2022) Supervisor: Dr. Beigy
- ◇ Principles of IT Strategic Management & Planning (January 2019 – July 2019) Supervisor: Dr. M. Matinkhah
- ◇ Fundamentals of Information Technology (September 2018 – January 2019) Supervisor: Dr. M. Matinkhah
- ◇ Programming Fundamentals (January 2018 –July 2018) Supervisor: Dr. R. SheykhPour

## Work Experiences

### Software Developer

*Amapardazesh Sepand Inc., <http://www.amapardazesh.com/>*

**July 2016 – January 2020**

*Supervisor: S. Tavakoli*

Description: The projects I worked on during my four years with Sepand Inc. were as follows:

- ◇ Query Optimization in SQL-Server
- ◇ Automatic updating of application using GoogleDrive API
- ◇ Report generator for DataGridView in StimulSoft Report
- ◇ Integrating different devices (POS, Scale, SMS, TelegramBot) with Sepand Application
- ◇ Database Schema Comparer and Upgrader using DACPAC

### English Teacher

*Zaban Gostar Institute*

**July 2017 – January 2018**

*Supervisor: F. Fatemi*

Description: I served as an English teacher for pre-intermediate students for one semester.

## Technical Skills

**Programming Languages:** Proficient: Python, C#, SQL (T-SQL); Intermediate: Java, MATLAB

**Developer Tools:** VIM ,VS Code, Jupyter Notebooks, Visual Studio, Android Studio

**Databases:** Proficient in SQL-Server, Familiarity with Mongo-Db

**Tools:** L<sup>A</sup>T<sub>E</sub>X, Git, Docker, Jekyll

**Operating Systems:** Manjaro (Arch Linux), Kubuntu (Debian), Fedora (KDE spin), Windows

## Languages

**English:** **TOEFL:** 103 (R: 27, L: 26, S:24, W:26) (Equivalent to C1)  
**ILI Certificate** (Equivalent to C2)

**Persian:** Native

**Arabic:** Basic

## Extracurricular

**Sports:** Mountain climbing, biking, swimming, playing chess!

**Other activities :** Blogging (see [amirpourmand.ir/blog](http://amirpourmand.ir/blog) and [aprd.ir](http://aprd.ir) )

## References

**Prof. Hamid R. Rabiee**

*Professor of Computer Engineering Department, <http://sharif.edu/~rabiee/>*

**[rabiee@sharif.edu](mailto:rabiee@sharif.edu)**

*Sharif University of Technology*

**Prof. Vali Derhami**

*Professor of Computer Engineering Department, <https://pws.yazd.ac.ir/derhami/en/>*

**[vderhami@yazd.ac.ir](mailto:vderhami@yazd.ac.ir)**

*Yazd University*