Amir Pourmand

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About Me

After working as a Full-Stack .Net Developer, I made a decision to enter the field of AI and pursued studies in AI at Sharif University of Technology. Currently, I am looking for job opportunities in the areas of Data Science or MLOps.

Work Experiences

Deep Learning Researcher   **Jan 2021 – Present**

Data Science and Machine Learning Lab, Sharif University of Technology   *Supervisor: Hamid R. Rabiee*

⋄ Real-time Automatic Polyp detection and classification using Interpretable AI (XAI): The purpose of this work is to enhance the YOLO algorithm's performance in handling labeled and unlabeled data using a semi-supervised learning framework. The study proposes an innovative approach that integrates semi-supervised learning and interpretability to improve the performance and transparency of the YOLO algorithm. To achieve this, pseudo-labeling is employed for semi-supervised learning, and the PyTorch-GradCAM library is adapted to work with YOLOv5, making it interpretable.

⋄ Real-time Detection of Brain Aneurysms using Multi-View YOLOv5: Our project involved customizing the YOLOv5 algorithm to detect brain aneurysms in 2.5D CT scans. The network structure was modified to accept multiple images of the same patient as a single input, which helped the network to make better use of available information.

Software Developer   **July 2016 – January 2020**

Amapardazesh Sepand Inc.   *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

Technical Skills

Programming Languages: Proficient: Python, C#, SQL (T-SQL); Intermediate: Java, MATLAB
Data Science Libraries: PyTorch, Pandas, Numpy, OpenCV, scikit-learn, Matplotlib, Scrapy
Developer Tools: VS Code, Jupyter Notebooks , VIM, Visual Studio, Android Studio
Databases: Proficient in SQL-Server, Familiarity with Mongo-Db
Tools: Git, Docker, Jekyll, Hugo, LaTeX,
Operating Systems: Manjaro (Arch Linux), Kubuntu (Debian), Fedora (KDE spin), Windows

Education

Sharif University of Technology   **Sep. 2020 - Present**

Master of Science in Artificial Intelligence and Robotics   *Tehran, Iran*

⋄ GPA: 18.83/20
⋄ Relevant courses: Deep Learning, Natural Language Processing, Computer Vision, Machine Learning

Yazd University   **Sep. 2016 - Sep. 2020**

Bachelor of Science in Computer Engineering   *Yazd, Iran*

⋄ GPA: 17.47/20
⋄ Relevant courses: Intelligent and Expert Systems, Algorithms and Data Structures, Principles of Database Design, Foundations of Information Retrieval and Web Search

Internships

Web Application and RESTful API for Restaurant   **July 2018 – October 2018**
Amapardazesh Sepand Inc.   *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.

Industrial Projects

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.

Academic Projects

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*

Natural Language Processing   **Jan 2022 - July 2022**
Sharif University of Technology, https://github.com/pam-lab   *Supervisor: Ehsaneddin Asgari*

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*

Web Crawler, Indexer and Search Engine Web Application   **November 2018**
Yazd University, https://github.com/pourmand1376/Crawler   *Supervisor: Dr. A. Zareh*

Open Source Contributions

Contributions to YOLOv5   **2022**
Link to repo: https://github.com/ultralytics/yolov5, #9059, #8694, #8766   *Maintainer: Glenn Jocher*

Contributions to al-folio   **June 2022**
Link to repo: https://github.com/alshedivat/al-folio   *Maintainer: Al-Shedivat*

Open source Crawler for Persian websites   **July 2022**
Link to repo: https://github.com/pourmand1376/PersianCrawler   *Maintainer: Me*

Translating ShareX to Persian (Link)   **July 2019 – August 2019**
Link to repo: https://github.com/ShareX/ShareX   *Maintainer: Jaex*