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About Me

I am a machine learning engineer with experience building real-world AI solutions to solve complex business problems. My expertise spans deep learning and computer vision, with a focus on medical imaging analysis. I am passionate about leveraging AI to create value and positive impact. I have a proven ability to understand business needs and deliver robust AI technologies that meet them. I am a collaborative team player and lifelong learner, continuously expanding my skills in this fast-evolving field. I am excited to continue growing as an ML Engineer, taking abstract concepts and turning them into practical innovations that augment human capabilities.

Work Experiences

Machine Learning Engineer

Jun 2023 – Present

Mofid Securities

Description: In my role, I transformed AI concepts into practical products. For instance:

- ◇ Built a conversational AI assistant with OpenAI's GPT-3 API to provide personalized financial guidance to customers
- ◇ Implemented speech recognition to automatically transcribe videos into text summaries, extracting key details
- ◇ Served some Open-source projects in production such as PyAnnote Diarization and Whisper for local usage
- ◇ Using Prompt Engineering approaches to use LLMs such as OpenAI and Claude effectively

Deep Learning Researcher

Jan 2021 – Jun 2023

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 - Full-Stack Web 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
- ◇ Designed and implemented RESTful APIs using C and .NET Framework to be used in Android Client

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, L^AT_EX,

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

Education

Sharif University of Technology

Master of Science in Artificial Intelligence and Robotics

Sep. 2020 - Present

Tehran, Iran

◇ GPA: 18.83/20

◇ Relevant courses: Deep Learning, Natural Language Processing, Computer Vision, Machine Learning

Yazd University

Bachelor of Science in Computer Engineering

Sep. 2016 - Sep. 2020

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

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.

Industrial Projects

Heart Rate Monitor Application (ECG)

Yazd University

July 2019 - Sep 2019

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

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

January 2019 – March 2019

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

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

July 2013 – November 2013

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

Maintainer of al-folio Jekyll Theme

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

June 2022

Owner: Al-Shedivat

Contributions to YOLOv5

Link to repo: <https://github.com/ultralytics/yolov5>, #9059, #8694, #8766

2022

Maintainer: Glenn Jocher

Open source Crawler for Persian websites

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

July 2022

Maintainer: Me