

Amirhosein POURDAVOUD

Data Scientists | Telecommunication/Electrical engineering

in [linkedin.com/in/amirhosein-prdv](https://www.linkedin.com/in/amirhosein-prdv) github.com/amirhosein-prdv
📞 +98-917 203 99 51 @ ah.pourdavoud79@gmail.com
📍 Iran, Tehran, tehran
📅 Born on April 8, 2000 (23 years old)

A University of Tehran graduate student who is enrolled in the telecommunication systems and data scientist programme. As a dedicated data scientist professional with +2 years of experience, I have worked on a wide range of projects, ranging from Signal processing to computer vision, recommendation systems, NLP and etc. I have developed complex machine learning models and algorithms, created data pipelines, and optimized machine learning models for both accuracy and speed. I have experience with various machine learning frameworks such as TensorFlow, Keras, Scikit-learn, and PyTorch. I am passionate about using machine learning to solve real-world problems and have a strong focus on model accuracy, scalability, and reliability and interpret complex data sets. I possess a strong foundation in mathematical concepts and programming languages such as Python and MATLAB, which have enabled me to analyze complex data sets and derive actionable insights.

PROFESSIONAL EXPERIENCE

Present
July 2022

Data Scientist | Signal Processing Engineer, SARVEEN TECHNOLOGY, Iran, Tehran

- Preprocessing and Gathering Dataset for Object detection.
- Developing and fine-tuning Machine vision models for Object detection via YOLO, RetinaNet, SSD, EfficientDet, VggNet
- Research on application of AI in the indoor localization and reporting.
- Investigate how fingerprints adapt to changing environment using artificial intelligence.
- Analyze reason of RSSI variations and Developed algorithms to enhanced indoor positioning accuracy.

Python Machine vision Tensorflow keras Opencvino MATLAB Signal processing VS Code Git

Jun 2021
Apr 2022

Machine Learning Engineer | Signal Processing Engineer, BASAAMAD AZMA NOVIN PARS, Iran, Shiraz

- Collecting and Preprocessing on PPG signals : Denoising and feature extraction for ML models inputs.
- Designed and developed a deep learning model to estimate blood pressure from the PPG signals features (RNN, ANN, CNN, SVM, KNN, ...).
- Collaborative ECG signal Anomaly detection with AI model : implementation and Fine-tuning using Pytorch.
- Evolutions and corrections : analysis, design and development.

Signal processing Filters MATLAB Data Analysis Python Deep learning tensorflow pytorch

Feb 2021
May 2021

Electronic Engineer | STM32 Programming, EBTEKAR TAJHIZ AMIN, Iran, Shiraz

- Programming and test with Stm32 and Arduino.
- Soldering normal and SMD boards.
- Designed two layer PCB with altium designer.
- Recommend source control framework then Setup GitLab server and Teach Git.

STM32 Keil Arduino Altium designer Soldering Git

EDUCATION

UT (UNIVERSITY OF TEHRAN)

M.S. IN TELECOMMUNICATION SYSTEMS ENGINEERING

- Working as a Research Assistant and Teacher Assistant.
- **Field of Research** : Artificial Intelligence & Wireless Communication
- **GPA** : 3.75/4

Tehran, Iran
Sep. 2022 - Present

IUST (IRAN UNIVERSITY OF SCIENCE AND TECHNOLOGY)

B.S. IN ELECTRICAL ENGINEERING (TELECOMMUNICATION)

- Graduated with Distinction
- **Thesis** : Cooperative Communication with Multi-UAVs
- **GPA** : 18.13/20 - (3.83/4)

Tehran, Iran
Sep. 2018 - Sep. 2022

General skills	Machine Learning (ML, DL, RL) Signal Processing Wireless Communication Network
Programming Language	Python MATLAB C/C++ SQL
Frameworks & Libraries	Jupyter Tensorflow Tensorflow-lite Keras PyTorch Scikit-learn Matplotlib Numpy Pandas Openvino
development tools	Visual Studio Code CodeBlocks Git
Operating systems	Windows Linux
Hardware	Arduino Arm (STM32) FPGA
Miscellaneous	Shell (Bash) \LaTeX (Overleaf/R Markdown) Microsoft Office

PROJETS & RESEARCH EXPERIMENT

PERSIAN-PLATE-CHARACTER-DETECTION

2022

github.com/amirhosein-prdv/Persian-Plate-Character-Detection

Developed and design AI pipeline for detect persian plate characters, this pipeline contains two YOLO model. one detect plate from picture of street and the other detect characters of detected plate. It can be implemented with a camera for live plate character detection.

Object detection Deep learning YOLO Python

AI VOICE-BOT

AI COMPETITION - 2021

Collaborating to Develop Voicebot like Amazon's Alexa named Raymon that can perform various tasks using conventional AI.

- Raymon can be turned on by its name or by pressing a button on the device
- Raymon can predict weather by accessing online data sources and providing accurate forecasts for any location
- Raymon can say clock by telling the current time and date in different time zones
- Raymon can say distance between cities and their religious times using APIs

Data crawling APIs Python NLP Deep Learning Tesnorflowlite ESP32 Programming Hardware

OTHER DEEP LEARNING PROJECTS

2021 - 2023

- Transfer learning for object detection
- Handwritten Persian/Arabic numbers recognition based on a deep CNN model [Github](#)
- Air-pollution prediction in smart city with hybrid CNN-LSTM model
- Shahnameh text generation language model with RNN model
- Image generator with deep convolutional GAN model
- Transformers with BERT model

Python Pytorch Keras Documentation

COOPERATIVE COMMUNICATION WITH MULTI-UAVS

BACHELOR THESIS - 2022

github.com/amirhosein-prdv/Cooperative-communication-with-UAVs

Cooperative communication is a technique that allows multiple wireless nodes to share their resources and cooperate with each other to enhance the performance and reliability of wireless networks. In the context of multi-UAVs, cooperative communication can enable the UAVs to form a network among themselves and with ground stations, exchange information and commands, relay signals for each other, and perform collaborative tasks.

MATLAB Wireless Communication Research

POV DISPLAY

2019

A POV display (Persistence of Vision) is a device that creates an illusion of a line or an image by rapidly rotating a single row of LEDs

ATTENDANCE DEVICE

2019

Implementing and design attendance device with RFID.

WIRELESS RADAR

LINEAR CONTROL COURSE PROJECT - 2019

Create a wireless radar system using Arduino, ultrasonic sensor and servo motor then Simulate the radar operation and display the results on a screen, Test the wireless communication between the radar and the screen using Wi-Fi modules

SMART HOME PROJECTS WITH IOT ON CLOUD INTERFACE

2018 - 2019

Developed a web interface and a mobile app to monitor and control the devices remotely.

Arduino TCP/IP Cloud

CERTIFICATE

- 2022** Fundamentals of Reinforcement Learning, *from Coursera*
- 2021** Machine Learning, *by Andrew Ng from Coursera*
- 2021** Deep Learning : Zero to Hero, *from Air Center at IUST*
- 2021** Python Data Structures, *from Coursera*
- 2021** Programming for Everybody (Getting Started with Python), *from Coursera*
- 2021** Wireless Communications for Everybody, *from Coursera*
- 2021** Smart Device & Mobile Emerging Technologies, *from Coursera*
- 2019** ARM (STM32) Programming, *from IUST*

HONORS & AWARDS

ACADEMIC

2020-22 **1st Place**, THE DISTINGUISHED (TOP) STUDENT IN ELECTRICAL ENGINEERING (TELECOMMUNICATION)

IUST

COMPETITION

2022 **3rd Place**, MATLAB COMPETITION OF MECHANICAL SCIENTIFIC ASSOCIATION OF IUST

Iran, Tehran

LANGUAGES

English ● ● ● ● ○
Persian (Native) ● ● ● ● ●

SOFT SKILLS

- Time Management
- Problem-solving
- Teamwork
- Documentation
- Adaptability

INTERESTS

DEVELOPMENT Artificial intelligence, Signal processing
RESEARCH Wireless communication
HOBBY Movie, Gym, Coding