Hasan Abbasi

Fullstack Developer

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Personal statement

A full-stack developer who loves innovation and learning. I am eager to learn new things, the harder to learn the better I like it. I have more than 5 years of experience in the field of Machine Learning and Computer vidsion and +4 years as a fullstack developer.

Work Experience

Aug 22 - Dec 22
Toronto, Canada
(remote)

Machine learning developer (Infilock Company -intern)
Main focus: Anomaly Detection using machine learning methods, Data Analysis, Python developer, Predictive maintenance of HVAC systems

Jan 22 - Apr 22
Toronto, Canada
(remote)

Full-stack developer (Edgecom Energy - intern)
Main focus: Codeless API service, Python (Machine Learning), ReactJS (Frontend), Node JS (Backend), PostgreSQL, REST APIs.

Sep 19 - Aug 20
Tehran, Iran

Full-stack developer (City development and innovation company)
Main focus: City bank mobile application, Frontend: {Flutter (mobile application) - ReactJS (Admin Panel)}, NodeJS (Admin Panel) - Mobile application APIs (JAVA)

Sep 19 - Apr 20
Tehran, Iran
(remote)

Full-stack developer (E-nemayandeh insurance company)
Main focus: Insurance exploration, comparison and analysis application, Flutter (Mobile application), NodeJS, Mongodb

Oct 18 - Dec 19
Tehran, Iran

Front-end developer (IOEC company)
Main focus: Flutter, ReactJS, PostgreSQL.

Sep 15 - Aug 18
Tehran, Iran

Research assistant (BISP Lab., Sharif University of Tech.)
Main focus: Computer vision, machine learning, biomedical image and signal processing, Biomedical imaging

Selected projects

- **Development of Weather-related Performance Degradation Metrics for CAV Sensors to Determine Operational Design Domain (ODD) on Canadian Roads (2022-2023 (Ongoing))**
  - National Research Council of Canada (NRC)Transportation Program
  - Analysis of ODD methods and datasets in adverse weather
  - implementation of object detection methods
- **Creating a Multi-modal Sensor Data Resource of Canadian Critical Electrical Infrastructure (September 2021-March 2022)**
  - Natural Resources Canada (NRCan) project
  - Camera/Lidar calibration
  - Camera/Lida data collection on Ottawa roads
  - Implementation of semantic segmentation algorithms
- **Web and Mobile application development**
  - City Bank mobile application (2021).
  - Machine learning based stock market analysis mobile application (2020).
  - Nemayandeh insurance company application (2020).
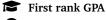
Technical Strength

- **Programming Languages**
  - Python
  - Dart
  - Javascript
  - C/C++
  - Java

- **Development**
  - Flutter
  - ReactJS
  - NodeJS
  - CSS
  - HTML
  - MongoDB
  - PostgreSQL
  - Git

- **Machine Learning**
- **Computer Vision**
- **Autonomous Vehicle**
- **Signal Processing**
- **Image Processing**
- **Medical Imaging**

Languages

Persian: ● ● ● ● ●
English: ● ● ● ● ○
Turkish: ● ● ○ ○ ○

Most Proud Of

🏆 Iranian elite foundation award
🎓 First rank GPA
✅ Top 0.1% in Iranian national exam rankings

Strengths

Problem-solving, Hard working, Multitasking, Fast learning, Creative thinking, Curiosity.

- **Implementing optical character recognition for Tehran's traffic monitoring (2019)**
  - Tehran Municipality Project
  - working on computer vision methods and machine learning algorithms
- **Implementing compressive sensing approaches for biomedical image reconstruction (2020)**
  - in photoacoustic and computerized tomography
  - Simulation of the whole photoacoustic setup (forward and backward model) in MATLAB based on K-Wave toolbox and Monte-Carlo approach
  - Implementation of Finite Element Method to model light propagation in biological tissue for fluorescence imaging
  - Simulation of compressive sensing based partial Fourier sampling in CT
- **Human facial emotion recognition based on anlysis of facial feature vectors (2017)**
  - Human facial landmark detection and analysis based on singular value decomposition
  - Tensor based face recognition and analysis of fisher faces in different dimension based on tensor decomposition
  - Design and implementation of fall detection system based on facial analysis

Education

Sep 2020 – Present	**Carleton University, Ottawa, Iran.**
	Graduate Student - Information Technology
	Supervisor: Dr. Marzieh Amini, Dr. Richard Yu.
	Thesis Title: Autonomous vehicle in adverse weather
	GPA: A+)
Sep 2013 – Aug 2015	**Sharif University of Technology, Tehran, Iran.** (The most reputable university in Iran)
	MSc. - electrical engineering (digital electronics)
	Supervisors: Dr. Mahdi Shabany – Dr. Zahra Kavehvash
	Thesis Title: Performing an efficient architecture for compressed sensing based X-ray computerized tomography
	GPA: 3.84/4.33 (17.41/20)
Sep 2009 – Aug 2013	**Shahid Beheshti University, Tehran, Iran.** (One of the most reputable universities in Iran)
	BSc. - Electrical Engineering (Electronics))
	Supervisor: Dr. Timarchi
	Thesis Title: Design and implementation of the spinal mouse (Biomedical application)
	GPA: 4.16/4.33 (1st highest GPA among all the electrical and computer engineering undergraduate students (18.62/20))

Honors and awards

- Ranked 3rd/16 (digital electronic field) – graduate students, Sharif University of Tech.
- Iran's national elite's foundation award, 2017.
- Admitted graduating program as a talented student without entrance exam (accepted in the Sharif University of Tech., Tehran University, and Amirkabir University, 2013)
- Ranked 12th/30, 000 (electronic field) national exam for entering MS studies, IRAN, 2013. (However, in the final stage I utilized direct entrance to the Sharif University as a talented student)
- Ranked 1st among 200+ B.Sc. students of the university, facility of electrical and computer engineering, Shahid Beheshti University, 2013
- Ranked 1st among all the high school students, 2008

Leadership and Teaching Experience

- **Teaching experience**

- – Fundamentals of electrical engineering, Sharif University of Technology, Winter 2019, Winter 2020.
  - – Logic Circuits, Abrar University, Tehran, Iran, Winter 2019.
  - – Electrical circuits 1, Abrar University, Tehran, Iran, Fall 2019.
- **Presenting and teaching experience:**
  - – Android programming workshop- Abrar University, Tehran, Iran-2019
  - – Matlab Workshop - Sharif University of Technology, Tehran, Iran - 2020
  - – Python Lab. - Sharif University of Technology, Tehran, Iran - 2017
- **Teaching assistant experience**
  - – Carleton University (2020-Present)
  - – Sharif University of Technology (2013-2019)
  - – Shahid Beheshti University (2011-2013)
- **Leadership experience:**
  - – Head of executive team, Iranian Conference on Basic Sciences, (Shahid Beheshti University, Tehran, Iran - 2012)
  - – Senior member of biomedical image and signal processing lab. (Sharif University, Tehran, Iran - 2015 to 2019)

Volunteer experience

- Executive team member in the convocation ceremony - Carleton University, 2022.
- Covid Monitoring Ambassador - Carleton University, 2022.