

Mohammad Abbasi-Rad

A programmer and computer science researcher.

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Education

- Shiraz University, 2006
B.Sc. in Mathematics
- Shiraz University, 2011
M.Sc. in Computer Engineering (Artificial Intelligence)
Adviser: Dr. Ali Hamzeh
Thesis: *Proposing a Novel Method for Many-Objective Optimization Using Evolutionary Algorithms*

Publication

M. Abbasi Rad, A. Hamzeh "A Coevolutionary Approach to many objective optimization based on a novel ranking method" in *Intelligent Data Analysis* Volume 20 (1) 2016

Work Experience

- Center of Intelligent Vision And Image Processing (of Shiraz University) (2015 - 2017)
 - o Research on Vehicle Height Estimation
 - o Development (Web App using C#)
 - o Database Design and Implementation (C# and SQL Server)
 - o Development (Windows App C#, Aforge.net, Emgu.CV)
 - o Implementing Plate Segmentation (C# Emgu.CV)
- Deed Asia Corp. (2017 - 2018)
 - o Research Supervisor:
 - Segmentation (CNN, Python)
 - Optical Character Recognition (CNN, Python)
 - Object Detection (Cascade Classifier, Matlab)
 - Plate Color Recognition (CNN, Python)
 - o Leading Developer:
 - Segmentation and OCR (TensorFlow, C++)
 - License Plate Recognition (OpenCV, C++)
 - o Software Designer:
 - Speed Estimation Application (*The software is currently used in major cities of Fars province of Iran.*)
 - CarPark Application (Plate recognition using a moving vehicle with multiple cameras. *Currently is in use for traffic control of Shiraz City.*)

- Teyho Corp. (2018-2019)
 - o Full-Stack Web Developer:
 - Conference Management App (Asp.net core, vue.js,...)
 - o System Designer and Developer:
 - Integration Server (C#)
 - Architectural Design (OOAD)
 - Designing database (SQL Server)
 - Implementing (C#, EntityFramework, RabbitMq, Nunit, TPL.DataFlow)
 - o Computer Vision:
 - Document Classification (CNN, TensorFlow, Python)
 - Action Recognition (Spatio-Temporal Autoencoder, LSTM, Keras, Python)
- Freelancer (Since 2019)
 - o Neuromote: A program for capturing and analysis of EMG signals.
 - Windows Application WPF
 - IPC with Python using ZMQ
 - Implementation of Signal Analysis Functions (Python, C#)
 - Windows Installer using WIX
 - o Invoices (Teyho Corp.): Extracting all relevant information from various formats of invoices. Including both table data and key/value pairs.
 - Research
 - Implementing and training Representation Learning model. (TensorFlow, Python)
 - Designing the software solution (Event Driven Architecture)
 - Implementing the software solution (Python, FastAPI, Celery, PyTest, SQLAlchemy)
 - o CodeStroke: An automation software for managing stroke patients.
 - Realtime Tracking System: using WiFi reception signals we trained a model to recognize the location of patients in the hospital. (Python, SciKit-Learn)
 - Android App: Maintaining the application and adding a few features. (Java, Kotlin)
 - Web App: Debugging the application and adding a few features. (TypeScript, Angular)
 - BackEnd Server: Debugging and adding a few features. (Python, Flask, MySQL)

Research Topics

I worked on these topics during my graduate studies

Source code of these projects are available on my GitHub account.

- Breaking Visual CAPTCHAs using Support Vector Machines (Final project for Pattern Recognition course.)

- Fuzzy Rule Based Classification System (Final project for Fuzzy Logic and Systems course)
- Link Prediction (KDD Cup 2012)
- Multi-Objective Clustering (Final project for Distributed AI course)
- Fuzzy Prototype Learning
- Feature Selection Using Genetic Algorithms
- Multi-Objective Clustering Using Genetic Algorithms
- Part of Speech Tagging.

Academic Services

- Teaching Assistant
 - o Evolutionary Computation 2012
- Journal Review:
 - o IEEE Transactions on Evolutionary Computation
 - o IEEE Transactions on Cybernetics
- Conferences:
 - o Artificial Intelligence and Signal Processing (AISP), 2012 16th CSI International Symposium on
 - o Information and Knowledge Technology (IKT), 2013 5th Conference on
- Talks:
 - o Development of Data Science and Its Role in Creating Job Opportunities. Shiraz University, Statistics Department, 20 Feb 2019.

Skills

- Languages:
 - o Persian
 - o English (TOEFL Score : 105)
 - o Français (A1)
- Software Development:
 - o Object Oriented Analysis and Design
 - o Version Control Systems (git)
 - o Unit Testing (Google Test, Nunit, PyTest)
 - o Functional Programming
 - o Web Development (ASP.Net, MEAN, Flask, FastAPI)
 - o Windows Desktop Application (Windows Forms, WPF)
- Programming Languages
 - o Expert: C#, Java, Python, JavaScript
 - o Professional: C, C++, Matlab, SQL,
 - o Intermediate: TypeScript, R, Visual Basic
 - o Learning: Clojure

- Software Libraries:
 - o Python: numpy, scipy, scikit-learn, PIL, opencv, matplotlib, keras, tensorflow, scrapy, nltk, pandas, seaborn, statmodels
 - o Java: jMetal, MOEAFramework, Weka
 - o C#/C++: Accord.Net, Aforge.Net, OpenCV, TensorFlow, CNTK, TPL.DataFlow, MathNet
- Other:
 - o Computer Networking (Network+)
 - o Linux
 - o Graphic Tools (Photoshop, Illustrator, Visio)
 - o Latex