

Batoul Diab

Tyre, Lebanon

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Breaking limits, shaping futures.

Skills

- **Programming (and Scripting) Languages //**

Proficient: Python, R, JavaScript and PHP

Intermediate: JAVA, C++, C and MATLAB.

- **Database Management Systems //** MySQL

- **Frameworks and Libraries //**

Python: TensorFlow, PyTorch, Keras, Scikit-learn, SciPy and other libraries

R: Bioconductor, rcpi, ggplot2, dplyr and other libraries

PHP: Laravel v10.22

JavaScript: React, Phaser

- **Tools //** GitHub, Postman, Figma

- **Theory //** Machine Learning, Image Processing, Complexity Analysis, Data Structures and Algorithms, Design Patterns, and OOP

- **Intermediate Knowledge //** Medical Images Processing, Distributed Systems, Big Data and Cloud Computing, and Full Stack Development

Projects

Brain Age Prediction [code available upon request]

Developed a deep model for predicting brain age using fMRI data //PYTHON (TensorFlow and other libraries)

S-Nitrosylation Sites Prediction [code available upon request]

Developed several Machine learning models for predicting S-Nitrosylation Sites in Proteins sequences //PYTHON and R

Seizures Prediction - EEG signal processing [code available upon request]

Developed an EEG signals analysis model for seizure stages prediction //PYTHON

TSP Solver [[GitHub Link](#)]

Developed a Traveling Salesman Problem (TSP) solver web application using three evolutionary algorithms: Genetic Algorithm, Ant Colony Optimization, and Particle Swarm Optimization (PSO) //JavaScript

MRPP Solver [[GitHub Link](#)]

Developed a simplified implementation based on an article stating Mobile Robot's Path Planning Problem (MRPPP) using Genetic Algorithm //JavaScript

CBIR System [[GitHub Link](#)]

Developed an image processing system for animal species image classification model using feature extraction methods for content-based image retrieval (CBIR) //MATLAB

Education

Master of Science (M.S.) Artificial Intelligence and Robotics – Tarbiat Modares University, Islamic Republic of Iran

September 2020 – February 2023

Bachelor of Science (B.S.) Computer Science – Lebanese University, Lebanon

September 2014 – June 2017

Professional Experience

STEAM Kids Tutor – Robo Brain Gym, Lebanon

Robotics, AI and 3D-Printing Tutor for Kids (10-13 yrs.)
January 2024 – Present
Instructed Kids classes for STEAM education (focused on robotics and 3D-printing).

Private Tutor - Freelance, Lebanon

Math and Physics Tutor
September 2023 – December 2023
Instructed class 11 students in math and physics subjects.

Algorithms, Data Structures, and Operating System Lecturer
September 2015 – June 2017
Conducted support lectures for Computer Science bachelor classes at the Lebanese University - Faculty of Sciences.

SAT Test Preparation Tutor
September 2014 – October 2014
Provided support lectures for SAT test preparation.

Certifications

Arduino Workshop - BeryTech Fab Lab, Lebanon
July 2019
Participation certificate

Lebanese University Collegiate Programming Contest (LU-CPC) – Lebanese University, Lebanon
July 2017
Participation certificate

Languages

Arabic (Native); English (Fluent); Farsi (Fluent); French (Beginner)