Azza Fadhel

Junior Machine Learning engineer
Machine Learning, Deep Learning, Artificial Intelligence

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Summary

Azza Fadhel, *a proactive, adaptive and team-oriented multidisciplinary engineering student at Ecole Polytechnique de Tunisie with strong academic achievements and volunteering experiences. She possesses strong knowledge in mathematics and good analytical skills. Keen to pursue a career in Machine Learning, Deep Learning, and Artificial Intelligence.*

Academic Background

2019 – 2022 **National Engineering Degree, Tunisia Polytechnic School (EPT)**, *Tunis, Tunisia*, Specializing in Signals & Systems
Courses: Artificial intelligence, Machine Learning, Data analysis, Object oriented programming, Image processing, Detection and Estimation theory, Information and Coding Theory, Operational Research, Optimization, Stochastic Process

2017 – 2019 **Two years intensive university level course preparing for the competitive entrance exams to the Tunisia's most prestigious universities, Preparatory Institute for Engineering Studies Tunis (IPEIT)**, *Specializing in Mathematics and Physics*,
National Ranking : 76/2500
Courses: Calculus, Algebra, Physics, Computer Science, Chemistry, Technology

2017 **High School Leaving Diploma**, *Specializing in Mathematics*, Obtained with High Honors, Bourguiba pioneer high school - Tunis

Research Experience

March – Jun 2022 **Graduation project, University of Louisville**, *Louisville, Kentucky, USA*,
Quantum Computing for Machine Learning Applications
Exploring the application of quantum computing in machine learning and Conducting of a comparative analysis of QC results with traditional approaches.
Keywords: Machine learning, Variational Quantum Circuit(VQC), Quantum SVM, Hybrid Neural Network, Qiskit, PennyLane, Pytorch, Python.

Nov 2021 – Jan 2022 **QUANTUM RESEARCH (Mentorship), Quantum Open Source Foundation**, *Online*,
Quantum circuit construction for commuting Pauli exponentials
Contribution to potential algorithms for quantum chemistry applications on NISQ devices by developing an efficient and optimized quantum circuit.
Github repository : https://github.com/VAZaytsev/CVP).
Keywords: Variational Quantum Eigensolver, quantum chemistry, quantum circuit, Python.

Jul – Sep 2021 **QUANTUM RESEARCH (Internship), CogniFrame**, *Online*,
Quantum Machine Learning Algorithms for Customer Churn classification
Implementation of a hybrid quantum-classical models for Customer Churn classification problem.
Keywords: Machine Learning, Variational Quantum Circuit(VQC), Qiskit, TensorFlow Quantum, PennyLane, Python.

Jun – Jul 2021	**QUANTUM RESEARCH (Internship), QWorld**, *Online*, Quantum Image Processing and Machine Learning Algorithms for Classification Implementation of a hybrid quantum-classical models for image classification using Quanvolutional Neural Network, Ensemble Classification and Quantum Transfer Learning. Keywords: Image processing, Machine learning, Deep Learning, QCNN, Quantum Computing, Transfer Learning, PennyLane, Python.

Skills

Technical skills

Programming : Python, Java, Matlab, C, R, Latex

Machine Learning : Scipy, Scikit-learn, PyTorch, TensorFlow

Data analysis : Numpy, Pandas

Data visualization : Matplotlib, Seaborn

Non Technical skills

Languages : English(Fluent), French(Fluent),German (Elementary), Arabic(Native)

Soft Skills : Motivation, Team spirit, Adaptability, Flexibility, Active listener, Persistence

Projects

Nov – Dec 2021	**Visual Transformers for image classification**, *Fire Detection within UAV acquired images using visual transformers* *Keywords*: Deep learning, attention, Multi-Head Self Attention Layer (MSP), Multi-Head Self Attention Layer (MSP), Layer Norm (LN)
Nov – Dec 2021	**Machine Learning for Computer Vision**, *Fire detection with Machine Learning using HSV Features* *Keywords*: Machine Learning, Features Extraction, RGB Features, HSV Features,Image Processing, Computer Vision, Machine Learning, Color extraction, Image Space, Classification, SVM, Decision Tree, Adaboost
April – May 2021	**Deep Learning for image classification**, *Implementing a classical convolutional neural network for image classification.* *Keywords*: Deep Learning, CNN.
March – April 2021	**Data analysis applied on Tunisia Stock Market**, *Implementing data analysis on Tunisian Companies outcomes using several methods like Principal Component Analysis and Factor Analysis* *Keywords*: Explanatory Data Analysis, Principle Component Analysis, Factor Analysis, Polynomial Regression, Python Programming
March – May 2020	**Stock management Desktop Application**, *Basic Java application that allows the user to add, modify, delete and cancel elements via a graphical user interface.* *Keywords*: Object Oriented programming, MYSQL, JAVA

Certifications

IBM Certified Associate Developer - Quantum Computation using Qiskit v0.2X
IBM Quantum, *2021*

QSilver Diploma
QWorld, *2021*

Qubit by Qubit: Introduction to Quantum Computing
Qubit by Qubit, *2021*

QBronze51 - Quantum Computing and Programming
QMorocco, *2021*

Extracurricular Activity

Nov 2020 – Nov 2021 | **Deutsche Gesellschaft für Internationale Zusammenarbeiten (GIZ)**, Tunisia,
Participant in the program "Promoting Female Talent"
Improving Soft-skills. expanding the professional network, and discovering the real world of business

July 2021 | **QWorld**, *Mentorship Experience*, Online,
Being among the arabic speaking crew, helping the participants in programming, and answering participants'questions.

Hobbies

Hiking,Travelling, Nature, Discoveries, Challenges

Referees

Name	Nick Bragnogolo	**Name**	Viratkumar Kothari
Company	CogniFrame Inc.	**Organisation**	QWord
Position	Business development and operations.	**Position**	Mentor
Contact	nick@cogniframe.com	**Contact**	virat.kothari@gmail.com