

Fatema Elgebali

QUANTUM COMPUTING RESEARCHER AND M.SC. STUDENT

Cairo Governorate, Egypt

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Education

African Institute for Mathematical Sciences in Cameroon (AIMS Cameroon)

Limbe, Cameroon

MSC. IN MATHEMATICAL SCIENCES

Sep. 2021 - June 2022

- Data science stream.
- **Essay title:** "General Oracle Operator for Non-Boolean Amplitude Amplification."
- **Supervisor:** Dr Wolfgang Scherer.

Cairo University - Faculty of Science

Giza, Egypt

BSC. IN MATHEMATICS AND COMPUTER SCIENCE

Sep. 2016 - May 2021

Experience

Egyptian Space Agency (EgSA)

Cairo, Egypt

SUMMER INTERN

Aug. 2020 - Sep. 2020

- I attended lectures online on satellites' structure and subsystems.
- I learnt about statistical models and used the ARIMA model to predict anomalies in satellites using historical satellite telemetry time series data from Laboratory for Atmospheric and Space Physics (LASP).

Skills

Language Skills

- Arabic (mother-tongue).
- English (Full professional proficiency).
- French (Elementary proficiency).

Programming Languages

- Python (NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, Qiskit)
- R, SQL, Java, JavaScript, C++, SageMath.

Typesetting Languages

- LaTeX.
- Markdown.

Frameworks

- React.
- Angular.

Research Interests

QUANTUM COMPUTING, QUANTUM INFORMATION, MACHINE LEARNING, QUANTUM MACHINE LEARNING, FUNCTIONAL ANALYSIS, DATA SCIENCE, THEORETICAL COMPUTER SCIENCE.

Projects

Image Classifier Project

- <https://github.com/fatemamelg/AIPND-project>
- Udacity's AI Programming with Python Nanodegree Program.

Investigate A Dataset: FBI Gun Data

- <https://github.com/fatemamelg/Investigate-A-Dataset-FBI-Gun-Data>
- First project of Udacity's Advanced Data Science Nanodegree.

Analyze A/B Test Results

- <https://github.com/fatemamelg/Analyze-AB-Test-Results>
- Second project of Udacity's Advanced Data Science Nanodegree.

Ford GoBike Bike Trips in San Francisco (February 2019) Dataset Exploration

- <https://github.com/fatemamelg/Communicate-Data-Findings-GoBike201902>
- Final project of Udacity's Advanced Data Science Nanodegree.

Extracurricular Activities

Our Lady of Lourdes School

Limbe, Cameroon

VOLUNTEER MATH TUTOR

Feb. 2022 - Mar. 2022

- Fulfillment for a mandatory give back activity at AIMS Cameroon.
- Tutoring mathematics for ordinary level GCE (Cameroon General Certificate of Education).

TEDxCairoUniversity

Giza, Egypt

WEB DEVELOPER

Sep. 2017 - Feb. 2018

- Contributed to developing TEDxCairoUniversity's website.

Summer and Winter Schools

Qiskit Global Summer School 2021: Quantum Machine Learning

Online

12 July 2021 - 23 July 2021

- A two-week intensive course focused on Quantum Machine Learning. This second-annual course, made up of twenty lectures, five applied lab exercises, hands-on mentorship, and live Q&A sessions, focuses on developing hands-on experience and understanding of quantum machine learning.

The Coding Schools's Qubit by Qubit Introduction to Quantum Computing Course with IBM Quantum 2020-2021

Online

Oct. 2020 - May 2021

- A year-long quantum course including weekly lectures and labs in quantum mechanics, quantum computation, and quantum algorithms.

Space Weather Monitoring Center Summer School, Helwan University

Regional Training Center, Cairo

Aug. 2018 - Sept. 2018

- Attended the 7th Space Weather Summer School (Solar Physics) held at the Regional Training Center in Cairo during the period from 27/8/2018 to 6/9/2018. Explore the variations of the sunspot's Magnetic field using SVM and Matlab.