

# Abdalla Rashed

## Machine Learning Engineer

**Python Developer** specializing in **Machine Learning & Computer Vision** applications, with a background in Electrical Engineering. Possesses high analytical skills, programming expertise, strong knowledge of data science and machine learning fundamentals, and a great passion for AI research & development.



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## WORK EXPERIENCE

### AI Instructor - Full-Time TalentEx

08/2023 - Present

Dubai, UAE

Professional Training Institute

#### Achievements/Tasks

- Content development of Generative AI training courses.
- Continuous improvement of courses with acquaintance on recent GenAI advancements from both educational and academic perspectives.
- Aiming for exceptional delivery of training presentations to drive business success.

### Technical Advisor - Part-time Sportic

05/2023 - Present

Abu Dhabi, UAE

An innovative startup providing a SaaS customer-oriented solution for local organizations & facilities.

#### Achievements/Tasks

- Support for the development of roadmaps, tech stack plan, and the agile process.
- Review of technical and business documents.
- Development of the startup landing website.

### Project Engineer - Contractor Lockheed Martin | Esterline

09/2022 - 04/2023

Abu Dhabi, UAE

#### Achievements/Tasks

- Initiation and delivery of a research & development program for AI-powered inspection of Foreign Object Debris [FOD] in aircraft engine bays. The prototype was presented in the International Defense Exhibition [IDEX] 2023.
- Conducting research experiments on advanced computer vision topics including image resynthesis, patch processing, knowledge distillation, and self-supervised learning.
- Delivery of collaborative learning & mentorship sessions for internal and external teams to improve work productivity and introduce them to useful topics and their applications.
- Development of a GUI for the prototype demo, setting up & testing robot routines, maintaining the development codebase, and performing 3D design & printing tasks.
- Providing technology & business development consulting.

Contact : Hala Majeed - hala.alzarkan@lmco.com



## SOFTWARE

Python PyTorch Hugging Face NumPy  
Pandas Flask OpenCV Tkinter Selenium  
PostgreSQL Git GitHub GitLab HTML  
CSS JavaScript Bootstrap C++  
Autodesk Inventor MATLAB | App Designer  
MATLAB | Deep Learning Toolbox  
MATLAB | Data Acquisition Toolbox



## TECHNICAL SKILLS

### Machine Learning Engineering

ViTs, CNNs, Object Recognition, Motion Detection & Tracking, Anomaly Detection, Contrastive Learning, Continual Learning.

### Robotics

3D Design & Printing, Arduino, Raspberry Pi, Nvidia Jetson, Electrical Power Circuits, PID Control

### Project Management

Agile Software Development Life Cycle, Version Control, Professional Writing & Presentation in LaTeX & MS Office tools.



## PUBLICATIONS

Journal Article

### AI-powered health monitoring of anode baking furnace pits in aluminum production using autonomous drones

Author(s)

Tasnim Basmaji, et al.

30 June 2023

[doi.org/10.1016/j.engappai.2023.106143](https://doi.org/10.1016/j.engappai.2023.106143)



## RESEARCH INTERESTS

Latent Traversals Multimodal Alignment  
Latent Diffusion Models RNNs NLP



## WORK EXPERIENCE

### AI Engineer - Intern

Lockheed Martin

03/2021 - 06/2022

Abu Dhabi, UAE

#### Achievements/Tasks

- Continuing the development of the AI Aircraft Inspection program.
- Conducting research experiments on machine learning and computer vision topics including object recognition & tracking and continual learning.
- Showcasing projects & technical presentations to executives & VIP guests.

Contact: Hala Majeed - hala.alzarkan@lmco.com

### Electrical Engineer - Intern

Abu Dhabi University

06/2020 - 08/2020

Abu Dhabi, UAE

#### Achievements/Tasks

- Conducting research for social-distance monitoring as well as Kalman filters experiments, lane detection, & behavior cloning for self-driving vehicles.
- Preparing lab manuals for a self-driving course.
- Preparing and testing a course project kit for a self-driving robot using Nvidia Jetson Xavier boards.



## EDUCATION

### B.Sc. in Electrical Engineering

Abu Dhabi University

09/2016 - 09/2020

Abu Dhabi, UAE

#### GPA

3.99/4.00



## HONOR AWARDS

1st Place award in the 3rd Annual Industrial Robotics Competition (08/2020 - 04/2021)

Emirates Global Aluminium

- Worked on the development of an AI-Powered drone for monitoring the operating conditions of aluminum anode baking furnace.
- Developed a framework for pit detection, visualization, & post-processing.

1st Place award in the 2nd Annual Industrial Robotics Competition (09/2019 - 07/2020)

Emirates Global Aluminium

- Worked on an AI robot for detecting temperature abnormalities at aluminum smelters.
- Developed an autonomous driving framework for the robot.

1st Place in the 3rd Annual ECE Design Project Competition - Judges' Choice (06/2020)

Abu Dhabi University

- Developed a smart shopping solution to assist wheelchair users.
- Design involved: robotic arm for gripping items, automatic barcode detection and scanning system, cart items detection & validation, and a shopping user interface.



## PERSONAL PROJECTS

Torch Engine (05/2023 - 06/2023)

- A modular engine, built on top of PyTorch, to provide high-level interface for different vision tasks
- Link: [github.com/r-evaar/torch\\_engine](https://github.com/r-evaar/torch_engine)
- Note: Development started on a private repository

Python Projects (03/2023 - Present)

- An on-going educational collection of mini-projects for learning advanced python concepts
- Link: [github.com/r-evaar/python\\_projects](https://github.com/r-evaar/python_projects)



## COURSES

AZ-900 Bootcamp: Microsoft Azure Fundamentals (08/2023 - Present)

20% Complete

Udemy | Complete SQL and Databases Bootcamp: Zero to Mastery (08/2023)

<https://www.udemy.com/certificate/UC-48923cb5-d078-4729-815e-4d1bc199c0e6/>

Udemy | PyTorch for Deep Learning in 2023: Zero to Mastery (06/2023)

<https://www.udemy.com/certificate/UC-fccdec7a-9ad3-4d69-a108-dd1353875f9a/>

Lazy Programmer | Data Science: Transformers for Natural Language Processing (06/2023 - Present)

30% Complete

Udemy | 100 Days of Code: The Complete Python Pro Bootcamp (01/2023 - Present)

70% Complete

Udemy | Beginning C++ Programming - From Beginner to Beyond (08/2022)

<https://www.udemy.com/certificate/UC-a06c249e-71ad-4221-a952-8380031e7e67/>

Coursera | Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization (10/2021)

<https://coursera.org/verify/X6UKE864MEC3>

Coursera | Structuring Machine Learning (10/2021)

<https://coursera.org/verify/YBBAWYFDWNT4>

Coursera | Neural Networks and Deep Learning (09/2021)

<https://coursera.org/verify/AV259SPUMM22>



## OTHER ACTIVITIES

ADDATHON (11/2019)

Abu Dhabi Digital Authority

Dubai Maker Fair Exhibition (02/2019)

Dubai World Trade Centre



## LANGUAGES

English

Full Professional Proficiency

Arabic

Native or Bilingual Proficiency