



Mugahed Abdulla

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EDUCATION

Master Mechanical Engineering

ETH, Zurich 2023-2026

Focus on Robotics, Machine Learning and Control

Bachelor Microengineering

EPFL, Lausanne 2018-2022

SKILLS

Python : Machine Learning, Computer Vision, Deep Learning, Reinforcement Learning, Scientific Computing

C++ : Object Oriented Programming

Matlab : Optimisation & Simulation

Catia V5 : Mechanical Part Design

Frameworks & Tools :

Machine Learning: TensorFlow, PyTorch, OpenCV, YOLO

Robotics: MuJoCo, Kinova KORTX API, sim-to-real

Development: Git, Linux

Cloud: Google Cloud Platform (GCP)

LANGUAGES

French : Fluent

English : Professional proficiency

Arabic : Limited working proficiency

HOBBIES

Travelling : Discovering new cultures

Scuba diving : Exploring marine life

Sport : Hiking, running, and boxing

EXPERIENCES

Master Thesis

Reinforcement Learning for Robotic Manipulations
UNSW, Sydney

Sept. 2025 – Apr. 2026

- Designed and trained reinforcement learning algorithms for autonomous robotic grasping tasks, bridging the gap between simulation and real-world deployment on a Kinova Gen3 Lite robotic arm.
- Validated the approach on a real robot, demonstrating successful transfer of learned behaviours from simulation to real-world conditions.

Publication : Adaptive Reward Shaping Helps Only Without Entropy Auto-Tuning: A Boundary Condition for Robotic Reaching
IEEE International Conference on Development and Learning (ICDL), 2026

DeMello Group

Computer Vision & ML Research Assistant

Apr. 2025 – Jun. 2025

- Developed and deployed an end-to-end deep learning pipeline for automated detection and classification of white blood cell (WBC) subtypes from high-resolution microscopy blood smears.
- Applied state-of-the-art deep learning models for cell detection and classification, achieving robust performance.
- Optimised the full inference pipeline for deployment on a Jetson Orin Nano device, applying GPU (CUDA) optimisation techniques to meet real-time hardware constraints.

Rolex

Computer Vision Engineer intern

Sept. 2024 – Mar. 2025

- Conducted a feasibility study on the application of machine learning and computer vision for automated anomaly detection on watch components.
- Assessed the technical viability of deploying production-ready algorithmic solutions for industrial quality control.
- Collaborated with multidisciplinary teams to translate operational requirements into concrete technical recommendations.

Futurekids

Teacher

2023 - 2025

- Designed and delivered hands-on coding and robotics curricula for children aged 8 to 16 using Lego robots to teach programming fundamentals and autonomous systems concepts.
- Taught web development fundamentals including HTML, CSS, and JavaScript to build interactive websites.
- Instructed students in video game development using Unity, covering game design, scripting, and iterative prototyping.

EPFL Racing Team

Team driverless

2021 - 2022

- Designed and built a 1/7 scale autonomous electric vehicle platform using Arduino, servo motors, ESCs, and 3D printing to test and validate driverless algorithms.
- Contributed to perception, control, and system integration within a multidisciplinary student engineering team.