

AbdelHakim Khaled Amer

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EDUCATION

Aarhus University Phd in Robotics and Control	Denmark, July'22– Current
Delft University of Technology Master of Mechanical Engineering: High Tech Engineering Track	Netherlands, Sep'18 – Feb'21
The American University in Cairo Bachelor of Science: Mechanical Engineering (High Honors)	Egypt, Sep'13 - June'18

WORK EXPERIENCE

EIVA a/s Research Engineer Autonomous Underwater Cleaning Robots project	Denmark, July'22 - Current
<ul style="list-style-type: none">Developed a new underwater robotics simulator, based on Microsoft's AirSimDeveloped optimal control algorithms for several ROV models.Supervised a bachelor project on drone building and control.	
Artificial Intelligence in Robotics Lab, Aarhus University Research Assistant Autonomous Wind turbine inspection using UAVs project	Denmark, May'21 - July '22
<ul style="list-style-type: none">Doing research in the field of optimal control and path planning applied to autonomous drone inspectionDeveloped a novel model predictive controller that achieves optimal trajectory for wind turbine inspectionCollaborating with an industrial partner for real life deployment (Upteko)Teaching Assistant for the course Control Systems Design, leading and organizing practical sessions.	
Royal IHC Dynamics and Control Engineer Dynamic and Control R&D Team	Netherlands, Sep'19 - Dec'19
<ul style="list-style-type: none">Developed and implemented novel path planning algorithms on MATLAB for autonomous navigation of vesselsDesigned a Simulink model and a controller for the ship and produced animations of the autonomous ship	
Research Institute for Sustainable Environment (RISE) Research Engineer AUC - Princeton collaboration for Water Management in Egypt	Egypt, Sep'18 - Apr'19
<ul style="list-style-type: none">Assembled a mechanical pumping windmill and designed and fabricated a 3-D printed model of itCollected data and analyzed the performance of the turbine on wind speed and pumping capacities	
Nestlé Maintenance Engineer Utilities Engineering Team	Egypt, July'17 - August'17
<ul style="list-style-type: none">Setting and executed a maintenance plan according to engineering standards	

SKILLS

Robotics Simulation Software: ROS, Gazebo, Airsim, PX4
Robotics hardware: Drone building, machining, 3-D printing
Programming Languages: Python, C++

EXTERNAL COURSES/SUMMER SCHOOLS

Non linear model predictive control (Frank Allgöwer)	CentraleSupélec, March'23
MPC-RL summer school , (Dr. Moritz Diehl)	Freiburg U, October'22
Gaussian Processes Summer School	Sheffield U, September'22
IDEA League Summer school	RWTH Aachen, '19

SUBMITTED PUBLICATIONS

Title: Autonomous Wind Turbine Inspection Framework Enabled by Visual Tracking Nonlinear Model Predictive Control (VT-NMPC) - *Submitted to Control Engineering Practice*
Link: <https://github.com/open-airlab/VTNMPC-Autonomous-Wind-Turbine-Inspection/>
Title: UNav-Sim: A High-fidelity Underwater Robotics Simulator and Synthetic Data-generation Framework - *Submitted to IROS*
Link: <https://github.com/open-airlab/UNav-Sim>