

# MOHAMED A. ABDELHADY

Amsterdam, NL

+31 621 445 327 ◊ m.adel.abdelhady@gmail.com

Github  ◊ LinkedIn  ◊ Medium  ◊ moabdelhady.com 

## EXPERIENCE

---

### Adyen

June 2021 - present


*Engineering Manager - Machine Learning*

- Leading a team of 9 (7 data scientists, 2 data engineers) in developing ML applications for fraud detection and anti-money laundering, directly managing team performance, growth, and mentoring.
- Research and development of graph-based ML models, enhancing fraud detection capabilities and tripling precision, resulting in over 4.5 million in prevented fraud losses in H1.
- Cross-functional collaboration with multiple teams, product managers, and stakeholders to align technical goals with business objectives and ensure high risk coverage and operational efficiency.
- Implementing robust MLOps practices, ensuring scalability and reliability of ML models in a high-stakes production environment.

### Fourthline

Aug. 2019 - June 2021

*Computer Vision & Machine Learning Engineer*

- Development and monitoring of data annotation strategy, ETL pipelines, and training frameworks for deep learning models to achieve end-to-end identity document authentication and provide calibrated risk scores. Improving the human baseline fraud detection f1-score by 2%.
- Research and develop frameworks for uncertainty estimation, unsupervised learning, and generative modeling to improve fraud detection capabilities.
- Develop, deploy, and maintain optimized Python APIs for serving ML models as well as monitoring framework .

### ASML

June 2018 - July 2019

*Software Design Engineer*

- Develop model-driven software components and algorithms for new machine modules.
- Implemented data visualization pipelines to verify new motion algorithms.
- Develop a code analysis tool to inspect illegal interfaces that reduced development time.

### Magazino GmbH

Sep. 2017 - May 2018

*Robotics Software Developer*

- Lead the technical onboarding and deployment of autonomous fleets at 2 intra-logistics warehouses.
- Develop navigation algorithms based on topological graphs for multi-robot applications.
- Create a robot-in-the-loop testing pipeline to improve the integration and validation process.

## EDUCATION


---

### University of Twente

*Sep. 2015 - Aug. 2017*

MSc in Robotics & Mechatronics - Full Scholarship

Cum Laude. CGPA: 8.5 / 10

Thesis: "Modular SLAM Framework using Component-based Approach" 

### German University in Cairo

*Sep. 2009 - July 2014*

BSc in Mechatronics - Partial Scholarship

Cum Laude. CGPA: 1.4 / 1.0

### fortiss GmbH - Technical University of Munich

*Feb. 2013 - Aug. 2013*

BSc thesis: "Probabilistic Sensor Data Fusion for a Quadrotor"

GPA: 1.1 / 1.0

## SKILLS

---

<b>Languages</b>	Python, SQL
<b>Tools &amp; Frameworks</b>	Pyspark, Airflow, Pytorch, TensorFlow, Git, Pandas, FastAPI, Docker, Javascript, React, Next.js

## PROJECTS

---

Developed a graph-based GNN for fraud detection, significantly improving precision.

Reinforcement learning approach for traffic lights optimization (2nd place in C4F2 Hackathon) [↗](#)

Monitoring of Tensorflow models using Prometheus, metricbeat, and Kibana/Grafana. [↗](#)

Reproducibility of fine-grained-image-classification attention approaches (deprecated) [↗](#)

Kaggle terrain classification using IMU - Top 6% [↗](#)

Python packages for robotics algorithms and autonomous navigation (contributor) [↗](#)

Visual navigation for a mobile robot using monocular vision [↗](#)

Bond graph modeling of a gimbaled-thrust rocket [↗](#)

Localization framework for a rail-guided robot [↗](#)

## PUBLICATIONS

---

**Reuse-oriented SLAM Framework using Software Product Lines** [↗](#) 2020  
*IEEE International Conference on Robotic Computing (IRC)*  
Authors: **Mohamed A. Abdelhady**, Douwe D. Dresscher, Jan F. Broenink

**Learning A Recurrent Neural Network for State Estimation using Filter Data** [↗](#) 2019  
*Intelligent Vehicles Symposium (IV)*  
Authors: Ahmed M. Hammam, **Mohamed A. Abdelhady**, Omar Shehata

**Demo Design: The VIRO Agile Eye** [↗](#) 2018  
*DSPE Mikroniek magazine, Volume 58, Issue 1*  
Authors: Louis Stijn, **Mohamed A. Abdelhady**, Samer Abdelmoeti

**Multi-robot Task Allocation for Search and Rescue Missions** [↗](#) 2014  
*European Workshop on Advanced Control and Diagnosis*  
Authors: A. Hussein, **Mohamed A. Abdelhady**, M. Bakr, Omar Shehata, Alaa Khamis

## EXTRA-CURRICULAR

---

Team strategy developer at ASML's robocup team using behavior trees.

Judge at the minesweeper robotics competition for humanitarian de-mining.

Makerspace developer at the University of Twente.

Part-time junior teaching assistant for CAD labs.

ACM workshops participant

AIESEC Munich talent developer.