

AHMAD HARKOUSS

SOFTWARE ENGINEER | IOT & EDGE
COMPUTING @ VOLVO GROUP |
AVAILABLE AUG 2025



CONTACTS

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Lyon

PROJECTS

IOT Smart Lock

03/2024 - 07/2024

.Net C# - Angular - C

- Participated in a project to create a smart lock from scratch, involving both **hardware** and **software** development for door lock and user group management.

<https://github.com/ahmadharkouss/IOT-Smart-Lock-Management>

IIoT AI Agents at the Edge

Edgentia: Startup - SaaS 06/2025

Go - .Net C# - Python - React

- IIoT edge platform that connects **OPC UA** devices to **AI** agents via **MQTT**, enabling real-time intelligent processing and analysis

Manufacturing Sort Project

02/2024 - 05/2024

.Net C#

- Participated in a project to create a **digital twin** simulation tool that must find the best manufacturing order based on an xml file

<https://github.com/ahmadharkouss/digital-twin-.net>

Personal Portfolio

Front-End Dev 03/2025

React - NextJs

- Personal portfolio website showcasing projects, and skills

<https://github.com/ahmadharkouss/v0-animated-portfolio-page>

EXPERIENCE

Volvo Group - Digital & IT

Renault Trucks
Factory, 69200
Vénissieux, FR

Cloud DevOps & Software Engineering Intern 02/2025 - 08/2025

- Worked in an **international**, cross-functional team across **France, Poland, Sweden**, and **India**, using **Agile methodologies** to contribute to Volvo's global digitalization strategy.
- Collaborated with the Microsoft support team during the exploration phase of **Azure IoT Operations**, actively contributing to technical discussions, resolving key integration issues, and helping validate architectural design choices.
- Modernized an existing industrial **ThingWorx application** by designing and deploying a **cloud-native edge computing solution** using **Python, Kubernetes** and **Dapr**, enabling secure and scalable data processing at the edge. The new solution adopts a **microservices architecture** for **cycle-based tension prediction**, with services that **publish and subscribe to MQTT messages** for real-time communication.
- Engineered & deployed **hybrid cloud connectivity** between on-premise factory systems (**OPC-UA Servers**, Factory-installed PCS) and the cloud to support secure remote monitoring and control using azure arc & iot operations.
- Designed and implemented data flows from **IOT field data** to **Azure Event Hub** for real-time industrial telemetry ingestion.
- Automated application deployment using **Helm charts, GitOps - Flux**, and **CI/CD pipelines**, ensuring consistent updates across on-prem distributed edge clusters.

ABGi France, part of VisiatiV

52 Quai Rambaud,
69002 Lyon

Full Stack Developer

09/2023 - 01/2024

- Designed and built a full-stack Azure Cloud solution for ABGi to help clients access French R&D tax credits (CIR, CII). - Developed the backend using **Java Quarkus** and the frontend with **Angular & TypeScript**.
- Collaborated with an international team, including developers based in Serbia.

EDUCATION

EPITA: Ecole d'Ingénieurs en Informatique

Lyon, FR

Master of Computer Science Engineering In
Industry 5.0

01/2020 - 12/2025

GPA | 3.7 / 4.0

University of Dubai

Dubai, UAE

Academic Exchange

01/2022 - 06/2022

GPA | 4.0 / 4.0

LANGUAGES

FRENCH

Native ●●●●●

ENGLISH

Proficient (Toieic 875)

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PROJECTS

Ansible & Terraform Automation Project

Infra & Devops 01/2025

HCL

- This project automate workflow using **ansible** & **terraform** inside a **Docker** container to manage gitea infrastructure with runners.

https://github.com/ahmadharkouss/ansible_terraform_gitea

Mini Twitter - Backend

05/2024

Node JS

- This project provide a **production-ready** environment for the backend of a social platform web app, similar to Twitter with an **apache2** reverse proxy.

<https://github.com/ahmadharkouss/oa-mini-x>

MNIST CLASSIFIER-MLOPS-PROJECT

Infra & Devops 10/2024

- MNIST classifier with a monitoring stack: **Prometheus**, **Grafana**, **AlertManager**, and **OpenTelemetry** to track the application's performance.

<https://github.com/ahmadharkouss/mlops-mnist>

Vision Transformer Implementation

Deep-Learning 12/2024

Python & Jupyter-Notebook

- This project implements a simplified **Vision Transformer (ViT)** architecture based on the paper *An Image is Worth 16x16 Words: Transformers for Image Recognition at Scale* by Dosovitskiy et al. (2020).

<https://github.com/ahmadharkouss/dl-project>

Industrial Ai-Scraper

CRM 10/2025

Python

- Ai tool that scrapes the latest news for a specified industrial company, cleans the data, and extracts key events related to the company.

<https://github.com/ahmadharkouss/ai-scraper>

LANGUAGES

ARABIC

Native ●●●●●

SPANISH Beginner level ●●●●●

TRAINING / COURSES

Cloud, Network and Cybersecurity:

- Cybersecurity of Industrial Systems
- Pen Testing
- Industrial local networks (**OPNsense**)
- System and network administration
- DevSecOps, Cloud security
- Information Systems Security / DB Administration
- IaaS, infrastructure as a service (**Azure, AWS**)
- Crypto and BlockChain

Data Science

- Deep and machine Learning, **MLOps**
- Big Data Analytics with spark and scala, DataViz
- Combinatorial Problem Solving
- Distributed Algorithms

INDUSTRY EXPERTISE

IOT & Edge Computing



Devops - Azure & Infra: Kubernetes, docker



Industrial Engineering:

- Lean Management
- Supply Chain Management
- Simultaneous Localization and Mapping (**NVIDIA Isaac ROS**)
- IoT objects conception
- Advanced Digital Manufacturing
- Modeling/simulation of industrial Twin Systems
- ERP information systems, micro services

Full Stack Development



AI: ML & Deep Learning

