

# ABDELMOUHAIMEN SARHANE

Computer Vision and Artificial Intelligence Student at INP-ENSEEIHHT seeking a summer internship with the goal of progressing to an apprenticeship in 2024/2025.

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Abdelmouhaimen

Toulouse (Paris, Lyon, Rennes | FR & Casablanca | MA)



## PROFESSIONAL EXPERIENCE

### IT Researcher and Developer Internship | ENAC | June 2023 - July 2023

- Conducted energy consumption assessment in matrix computations for compressed data.
- Developed C applications to compare compressors such as Blaz and ZFP using PowerJoular, while also applying them in the sports analysis field, particularly in creating heatmaps for player movement.
- Contributed to the writing of a paper which was accepted at the ICT4S 2024 conference.

## EDUCATION

### Image processing and Artificial Intelligence | INP-ENSEEIHHT | 2022-2025

- Advanced coursework in Artificial Intelligence methodologies, including Computer Vision, Deep Learning, and Image Processing.
- Extensive training in Concurrent Systems, Distributed Data, and Model-Driven Engineering.
- Diverse courses ranging from applied mathematics, Statistics, Optimization, Operations Research, artificial intelligence to business strategy, sustainable development, and project management.

### MPSI/PSI Preparatory Classes | CPGE SAINT-BENOIT - Angers | 2020-2022

## PROJECTS

### Academic Projects | Deep Learning and Computer Vision | 2024

- Implementation of neural networks using numpy. Dogs and cats classification. Posture estimation. Object detection and localization.
- Traffic sign image classification, data preprocessing and augmentation, model optimization techniques to prevent overfitting and improve generalization.
- Technologies Used: Python, TensorFlow, Keras, Matplotlib*

### Academic Project | 3D Rendering Engine in Java | 2024

- Design and implementation of an advanced 3D rendering engine in Java, enabling realistic visualization of three-dimensional objects.
- Implementation of a complete graphics pipeline including coordinate transformation, rasterization, and shading.
- Development of a texture mapping system to enrich object surfaces.

### Personal Project | Traffic Light Optimization with AI | 2023

- Optimization of traffic light control using deep learning based on traffic density calculated from image processing and car detection with cameras via OpenCV.

### Academic Project | RevEasy - Interactive Java Swing Learning Platform | 2022

- Swing GUI: Navigation, content management, text formatting.
- Quiz Mechanisms: Personalized review options, backend logic implementation.

### Personal Project | CS50X Personal Project - Web Application | 2021

- Developed a web application based on Python using Flask, integrated with PostgreSQL for database management, enabling easy viewing and editing of Heroku databases with a user-friendly interface.

## SKILLS

- Python & libraries (sklearn, pomegranate, scipy, tensorflow, nltk, openCV), SQL, R Studio, Microsoft Office (PowerBI, Excel, PowerPoint), Java, OCamL
- Docker, OpenVINO, Azure, AWS, Matlab, WebDev Stack(Django/Flask, HTML, CSS, JS, Ajax, React)
- Machine Learning & AI, Optimization, Statistics & Mathematical Modeling
- Effective Project Management and Collaboration, Innovative Leadership, and Strategic Problem-Solving.

## CERTIFICATIONS

- IBM AI Engineering Professional Certificate
- Python CS50P and CS50x Certificates in Advanced Python & Web Development
- Cambridge Linguaskill Business English Certificate : C1 or above
- Languages: English (Fluent), French (Fluent), Arabic (Native) & Spanish (Beginner), Japanese (Beginner)