Ayoub EL HOUDRI

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Education

CY Paris University, ENSEA and ETIS Lab — Sept 2022 - 2023
MRes. Artificial Intelligence and Complex Systems — *Cergy, France*

CY Tech — Sept 2020 - 2023
MEng. Applied Mathematics and Computer Science (Double Major) — *Cergy, France*

Classe Préparatoire of Lycée Jean Bart — Sept 2018 - 2020
BSc. Mathematics, Physics and Computer Science — *Dunkirk, France*

Experience

SCRAPO — Sept 2022 - Present
Co-founder — *Paris, France*

I started a company called SCRAPO this year with the help of mentors and advisors from CY Entreprendre. SCRAPO focuses on collecting, organizing, and analyzing large amounts of data for businesses. Our goal is to provide a quick, tailored, and efficient solution for companies that need to use data for their needs.

Karmen — Jun 2022 - Sept 2022
Data Scientist - Intern — *Paris, France*

I was part of the research and development team at Karmen. Our project involved creating an algorithm that could extract table data from scanned documents and keep the table structure intact. The algorithm used a combination of optical character recognition, image processing, and deep learning techniques.

French National Centre for Scientific Research — Jan 2022 - May 2022
Research Assistant — *Cergy, France*

I conducted research on the impact of artificial intelligence on the labor market in France. I gathered data from companies in AI-related industries and used machine learning techniques to analyze the data and draw insights.

Digimind Labs — Jun 2021 - Sept 2021
Research Engineer - Intern — *Berlin, Germany*

I contributed to the creation of a deep learning model for reconstructing the shape of specific objects from a single RGB image. I also generated 3D synthetic data and used it to train the model.

Projects

A model of the remapping of neural coding for navigation and working memory

This research project, conducted under the supervision of Pr. Philippe Gaussier at ETIS Lab, consists of using computational neuroscience methods to investigate the relationship between visual place and path integration in order to understand the mechanisms behind remapping in the hippocampus. The aim is to improve our understanding of how the hippocampus produces and maintains a coherent working memory over time.

Compressed sensing: A mathematical model for signal compression

In this project, we implement and compare some models of data compression which consists of reconstructing a signal from fewer samples that do not satisfy the Nyquist-Shannon sampling condition, a process called compressed sensing. The lower sampling rate makes storing and processing this data much more efficient.

Awards

National Mathematical Olympiads Ranked 10th in the National Olympiads of Mathematics in 2018

Excellence Scholarship A scholarship offered to the best high school students in the country to study abroad

Skills

Programming Skills Python (NumPy, SciPy, Scikit-Learn, Pandas, Matplotlib, PyTorch, OpenCV, Quantlib, NEURON) . R . C . SQL . Linux . HTML/CSS . LaTeX. MATLAB . Git/GitHub . Docker . Azure

Mathematical Skills Linear Regression . Dimensionality Reduction . Probability Theory . Markov Chains . Differential Equations . Cross Validation . Classification . Clustering . A/B Testing . Machine Learning . Graph Theory . Differential Geometry . Linear Algebra . Mathematical Analysis . Data Augmentation

Languages English (Bilingual proficiency) . French (Native proficiency) . Spanish (Intermidate proficiency)