Ayoub EL HOUDRI

y-aoub | Ayoub EL HOUDRI | y-aoub.github.io | ayoubelhoudri@gmail.com | +33 7 83 22 67 03

Education

CY Paris University, ENSEA and ETIS Lab (CNRS) Sept 2022 - 2023
Master of Research in Artificial Intelligence and Complex Systems Modeling *Cergy, France*

CY Tech Sept 2020 - 2023
Master of Engineering in Applied Mathematics and Computer Science *Cergy, France*

Classe Préparatoire aux Grandes Ecoles Sept 2018 - 2020
Equivalent to a Bachelor of Science in Mathematics, Physics and Computer Science *Lille, France*

Experience

Median Technologies May 2023 - October 2023
Research Intern *Sophia-Antipolis, France*
Worked on generative AI in medical imaging, focusing on lung segmentation and cancer screening. Worked on implementing model architectures and refining training methods to improve segmentation accuracy.

Karmen Jun 2022 - Sept 2022
Data Scientist & Software Engineer Intern *Paris, France*
Worked on developing an algorithm to extract tabular data from scanned documents, preserving the original format. Utilized OCR, image processing, and deep learning in the pipeline. Also led the deployment of the pipeline as an internal service.

Digimind Labs Jun 2021 - Sept 2021
Research Intern *Berlin, Germany*
At Digimind Labs, I worked on the development of a graph-based convolutional neural network for reconstructing plastic bottle shapes from single RGB images. Additionally, I contributed to the generation of 3D synthetic data for subsequent training.

Projects

Neural Hippocampal Modeling for Navigational Tasks
Conducted neuroscience research at ETIS Lab (CNRS) on hippocampal place cell remapping and its impact on working memory under supervision of Prof. Gaussier.

Modeling Rare Event Outcomes for Enhanced Decision-making
Development of predictive models to identify and forecast rare event outcomes, and enhance decision-making processes.

Epidemiological Study of Sars-CoV-2: SEIR Model
Implemented a mathematical model to comprehend the spread of the SARS-CoV-2 virus.

NLP-Driven ESG Company Scoring with DistilBERT
Implemented a natural language processing project using DistilBERT on news articles for ESG company scoring.

Web Scraping and Crawling API and Analyzed Job Offers
Developed software for web scraping and crawling to extract, analyze, and classify job offers.

Explaining Electricity Futures Prices in France and Germany
Analyzed daily electricity futures using statistical models with meteorological and commercial data in France and Germany

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

Software Skills	Python (PyTorch, Jax, Numpy, PySpark, Scipy, Scikit-learn, Pandas, OpenCV, NLTK, Plotly, Flask, Dash, etc.), R, SQL, Linux, Git, Airflow, Elasticsearch, Docker, AWS, CI/CD, LaTeX, Markdown, HTML
Technical Skills	Time Series Forecasting, Linear Algebra, Probability and Statistics, Markov Chains, Partial Differential Equations, Deep Learning, Optimization, Machine Learning, Graph Theory, Anomaly Detection, Signal Processing, Computer Vision, Topology, Reinforcement Learning, GPU Computing
Languages	English (Bilingual proficiency), French (Native proficiency), Arabic (Bilingual proficiency)