

DURAND HOMER

Engineer in applied mathematics and computer science specialising in statistics

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📍 Paris, France



ACADEMIC PROJECTS

End of study project

Medical image processing

📅 6 months

📍 Polytech Sorbonne

Statistical learning for the detection of deficient MMR crypts to aid in the diagnosis of Lynch disease

- YOLOv3 model
- Siamese convolutional neural networks models (pairwise ranking)

Industrial Project - METRIQ enterprise

Application of NLP and time-series analysis tools for information retrieval

📅 10 months

📍 Polytech Sorbonne

Statistical analysis of letters from MPs to ministries for the study of mechanisms of political influence

- NLP tools (normalization, TF-IDF, cooccurrence matrix, ngram models)
- Statistical analysis (classification, anomaly detection)

PROFESSIONAL EXPERIENCES

Ocean model calibration with statistical learning

LOCEAN laboratory

📅 March 2021 – September 2021

📍 Paris, France

- Dynamical model calibration with History Matching methodology using Gaussian Process, Random Forest and Bayesian Neural Networks regressions
- Bayesian Optimization

Web app developer internship

Kyntus

📅 July 2019 – August 2019

📍 Velizy, France

- Web app development for schedules management (PHP, SQL, HTML)
- Great autonomy

STUDY AND DIPLOMA

Master's degree in Statistics

Sorbonne University

📅 Sept 2021 – Oct 2022

📍 Paris, France

Engineer in Applied Mathematics and Computer Sciences

Sorbonne University Polytechnic School

📅 Sept 2016 – Sept 2021

📍 Paris, France

PROFILE

Having completed my engineering degree in applied mathematics, I am currently specialising in statistics at Sorbonne University. I am therefore looking for a research internship in the field of statistics (causal inference or inverse problem solving) which could lead me to an academic thesis.

LANGUES

French – Mother tongue

English – Academic (Toeic 925)

Spanish – Notions (B1)

ACADEMIC COURSES

- Statistical Learning : VC Theory – non-parametric inference – High Dimensional Statistics – Machine Learning
- Optimisation : Online Convex Optimisation –
- Others : HPC – PDE –

SKILLS

- Machine Learning Pytorch – Keras – Scikit-Learn
- Programming : python – R – matlab – SageMath – C++ – cuda – C
- Tools Markdown – L^AT_EX – GitHub – Bash

INTEREST

Personal reading :

- The Book of Why ? (J. Pearl 2018)
- Statistical Analysis of Climate Extremes (M. Mudelsee 2020)
- IPCC reports : - Climate Change 2013: The Physical Science Basis : Global Warming of 1.5 °C

Music:

- Piano : 5 years
- Personnal project : Language

models for music generation

Sport:

Badminton – Climbing