

KHAOULA BELAHSEN

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EDUCATION

ECOLE NORMALE SUPERIEURE

Paris, France

Master of Science MVA, France's top AI and Machine Learning master

2019 - Present

- Relevant coursework: Deep Learning, Computer Vision, NLP, Neuroscience, Biostatistics, Speech recognition

ENSTA PARIS

Paris, France

Master of Science in Applied Mathematics: Optimization and statistics

2017- Present

- Relevant coursework: Optimal Control, Bayesian Filtering, Time Series, Stochastic Calculus, Statistical learning

LYCEE MOULAY YOUSSEF *Morocco's top Competitive Undergraduate Program* GPA: 4/4

Rabat, Morocco

EXPERIENCE

I-COM DATA MARKETING INTERNATIONAL HACKATHON

Cadiz, Spain

Team member

Sept 2020

- Will represent the MVA Master in this global 24-hour hackathon

LADY DAVIS INSTITUTE / MCGILL UNIVERSITY

Montreal, Canada

Student researcher with Professor Celia M.T Greenwood

May 2019 – August 2019

- Proposed and built a bias correction method to better account for the measure of an epigenomic feature
- Built a statistical interaction-based regression model including regularization for identification of genomic interactions
- Conducted statistical study of high dimensional features in order to test the model in the case of infantile obesity

LE GROUPE LA POSTE

Les Sables d'Olonne, France

Blue Collar Internship

July 2018 – August 2018

- Worked as a post officer handling the organization, distribution of mail and customer service

AWARDS

- Citadel London DataThon 2019-2020 3rd place recipient
- French Government Excellence scholarship awarded to top 10 Moroccan students in French Schools
- King Mohammed VI foundation scholarship awarded to top 100 Moroccan high-school graduates

PROJECTS

ECOLE NORMALE SUPERIEURE / APPLIED MATHEMATICS DEPARTMENT

Paris, France

French web domain classification using Graph and Text Learning

December 2019 – March 2020

- Explored data analysis and preprocessing for the textual and graph data using NLTK
- Implemented models for the classification with text only, graph only and text+ graph using LGR, GNN and DeepWalk
- Explored parameter bayesian optimization in both embedding and classification steps

ECOLE NORMALE SUPERIEURE / APPLIED MATHEMATICS DEPARTMENT

Paris, France

Image Denoising extension of the Google BRAIN paper SinGAN

December 2019 – February 2020

- Studied the Computer Vision model SinGAN (<https://arxiv.org/abs/1905.01164>)
- Benchmarked SinGAN with 4 others models for Super-Resolution task
- Proposed a novel approach to extend the SinGAN model for image denoising tasks

ENSTA PARIS / APPLIED MATHEMATICS DEPARTMENT

Paris, France

Optimization project of a drinking water network in Matlab

October 2018 - March 2019

- Modelled the water reservoirs vs client demands network
- Translated the optimization of the network as finding the flows minimizing the energy of the network
- Implemented various descent algorithms for the resolution of the constrained problem (BFGS, Newton...)

- Descriptive analysis of a 1.5 M samples dataset of Los Angeles Crime Police Records
- Decomposed the time series for 5 of 135 crimes and studied their trend, seasonality and stationarity
- Forecasted the evolution of the crime rates using ETS and ARIMA models

ADDITIONAL INFORMATION

- Technical skills: Python (Pandas, Scikit-Learn, PyTorch, TensorFlow), R, MATLAB, LaTeX, Git
- Languages: French, Arabic (native), English (fluent, TOEFL iBT 107/120), Spanish (Notions)
- Extracurriculars: managed a €60000 budget with 97 members for the arts club, organized weekly and monthly events and a 10 years old Art festival with 600+ participants and 14 categories
- Interests: clothes and object customizing, yoga, travelling (Canada, Mexico, Austria, Italy, Germany...)