CLÉMENCE LANFRANCHI

Master's student in Data Science

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EDUCATION

MSc Data Science

ETH Zurich

September 2020 - September 2022 Zurich, Switzerland

Courses in Machine Learning, Big Data, Algorithms and Statistics. Other relevant courses in NLP, Reinforcement Learning and Quantum Computing.

BSc & MSc Computer Science

Ecole polytechnique, IP Paris

August 2017 - August 2020 Paris-Saclay, France

One of France's most prominent universities for science.
CGPA: 3.93/4.0

Classes Prépa MPSI/MP*

Lycée Louis le Grand

August 2015- July 2017 Paris, France

Selective post-secondary undergraduate program in math and physics leading up to competitive entrance exams to the "Grandes Ecoles".

EXPERIENCE

Master's Thesis in Data Science

Photogrammetry and Remote Sensing Lab, ETHZ

March 2022 - September 2022 Zürich, Switzerland

- Developed an automated system centered on deep learning that uses satellite imagery to estimate biomass.
- Used data from NASA's GEDI mission to train a deep convolutional neural network to regress biomass at a 10 m spatial resolution and produce a global map of carbon stocks on Earth.

Research Internship in Computer Science

Sorbonne Université

April 2020 - August 2020 Paris, France

- Worked in the Laboratory in Medical Informatics in collaboration with the Hospitals of Paris (AP-HP).
- Designed a new algorithm to aid in the detection of Lynch syndrome using neural networks and machine learning techniques as well as image analysis.

Military Officer

Compagnie de Gendarmerie

September 2017 - March 2018 Bar-sur-Aube, France

- Learned the basics of military and command training.
- Led a project to reinforce the links between the population and the police officers in cooperation with mayors of 50 towns and regional prefects.

ACADEMIC ACHIEVEMENTS

- Received the "**Research Internship Award**" from Ecole polytechnique for my work on Lynch syndrome detection at Sorbonne Université.
- Was awarded with the **ETH-D Scholarship** based on excellent academic achievements.
- Ranked 30^{th} out of 550 students on graduation at Ecole polytechnique.

PROJECTS

Fraud Detection using Graph Neural Networks

- Worked on a 200-hour project in collaboration with DS3Lab of ETH and Ebay using real world data of user behaviors.
- Developed a model to process graph-structured data using heterogeneous and dynamic graphs.
- Submitted a paper to KDD 2022 conference.

AI-Judge for the US Courts of Appeal

- Corpus of 30,000 legal briefs from all of the US Courts of Appeal.
- Applied state-of-the-art NLP techniques such as Transformers to predict the outcome of the appeal process.

Similar Patient Detection in the context of Traumabase with Capgemini

- Real world database of 20,000 patients covering 280 variables of pre-hospital data.
- Worked on missing value imputation and developed clustering algorithms aiming at providing relevant clinical information given the data of a new patient.

TECHNICAL SKILLS

</> Python, R, SQL, Java

Pandas, Scikit-Learn, Pytorch, Tensorflow

LaTeX, Jupyter Notebook, Git

Microsoft Office, Google Office

LANGUAGES

French	Native speaker
English	Fluent, TOEIC 2019: 985/990
	TOEFL 2019: 115/120
German	Good working level (B2)

OTHER ACTIVITIES

Student Representative

In close contact with the military staff of Ecole polytechnique, I was responsible for the cohesion of the 28 students within my sports section and the organization of various events.