Hugo **Le Moine**

Data Science · Python Programming

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Soon to graduate data scientist apprentice with 2+ years of experience and a proven ability to innovatively use machine learning in problem solving. Looking to secure a data scientist position to leverage my knowledge in supporting your activities.

Work Experience

Airbus Commercial Aircraft — *Acoustics Department* — *Toulouse, France*
Data Scientist Apprentice — *Sep. 2018 — (Aug. 2021)*

- Designed a pipeline to automatize cleaning of audio recordings using **anomaly detection** algorithms. Slashed cost by >99% and reduced required time by >90%.
- Identified contributors to specific aircraft noise variability using **data analysis** and **visualizations**.
- Determined sources of production quality drifts by performing **time series** analysis.
- Experimented autoencoder-based **predictive maintenance** to anticipate component failure based on vibrations.
- Performed **multi-objective optimization** using an **artificial neural network** based **surrogate model** and improved performance at constant noise.

Projects

University of Waterloo — *Ubiquitous Health Technology Lab* — *Waterloo, Canada*
Research project in cooperation with UTC — *Sep. 2020 — (Jan. 2021)*

- Analysed and cleaned motion data from **100 000+ smart thermostats** (>600GB of data).
- Trained models to predict the number of occupants in homes with **>70% accuracy**.

SNCF — *French National Railway Company* — *Paris, France*
Experimental team project, supervised by SNCF researchers — *Feb. 2020 — June 2020*

- Optimized the economic performance of a high-speed train by searching the most efficient design of operation.
- Reduced energy consumption and respected a constraint of delay, using **dynamic programming**.

Skills

Data Processing (validation, aggregation, analysis) · **Dimensionality Reduction** (PCA, LDA, autoencoders)
Machine Learning (classification, regression, anomaly detection, clustering) · **Neural Networks** and **Deep Learning**
Data Visualization · **Optimization** (LP, CP, DP, EA, GA)

Python	Data processing (pandas, numpy, dask) · Data visualization (matplotlib, seaborn, plotly) Machine learning (scikit-learn, keras, XGBoost) · Optimization (scipy, pymoo)
Programming	SQL, C/C++, Prolog, HTML/CSS, (basics: R, PHP, Lisp, x64 Assembly)
Database	MySQL, PostgreSQL, MondoDB, Oracle, neo4j
DevOps	Linux, Git, Docker, Azure, Anaconda
Languages	French (native), English (C1), Spanish (B2), Chinese (HSK2), Latvian (A1)

Education

University of Technology of Compiègne (UTC) — *Compiègne, France*
5-year Computer Science and Engineering Degree (equiv. MSc) — CGPA: **4.43/5.00** — *Sep. 2015 — expected Aug. 2021*

- Computer Science · Information Technology · Operations Research · Mathematics & Statistics · Physics
- Exchange semester: Riga Technical University *(Aug 2017 — Jan 2018)*

Coursera
Self-Directed Learning

- **Stanford**: Machine Learning
- **deeplearning.ai**: Neural Networks & Deep Learning, Improving Deep Neural Networks
- **University of Michigan**: Python Data Structures, Data Visualization in Python, Applied Machine Learning in Python

Extracurricular Activity

Since 2018 **Training Manager & Photographer**, Pics'art — *photography skills development organization*
2018 — 2019 **Local Representative, Head of Communication**, ESN Compiègne — *international student organization*
2016 — 2017 **President**, La Foulée UTCéenne — *running club*
2015 — 2017 **Volunteer Rescue Worker**, La Croix Blanche — *first-aid organization*