Hugo **Le Moine**

Data Science · Python Programming

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Work Experience

Airbus Commercial Aircraft

Toulouse, France

Machine Learning Apprentice Engineer — *Sep. 2018 — present*

- **Anomaly Detection** : automatic cleaning of audio recordings in a cost-effective and automated way, using machine learning (DBSCAN, IsolationForest) to detect anomalous noise
- **Data analysis** : identification of parameters contributing to specific aircraft noise variability, highlighting of production quality drifts
- **Predictive maintenance** : literature review and experimentation using autoencoders to anticipate component failure based on vibrations

Projects

SNCF

Paris, France

Experimental work supervised by SNCF researchers — *Feb. 2020 — June 2020*

- **Dynamic Programming** : optimization of the economic performance of a train. Search of the optimal way to operate the train while reducing energy consumption with a delay constraint.

Skills

Python	Pandas, scikit-learn, keras, numpy, scipy, dask, librosa, matplotlib, seaborn
Programming	SQL, C/C++, R, Prolog, LaTeX, HTML, CSS, Jekyll, Lisp, PHP, x64 Assembly,
Database	MySQL, PostgreSQL, MondoDB, Oracle, neo4j
DevOps	Linux, Git, Docker
Languages	French (native), English (C1), Spanish (B2), Chinese (HSK1), Latvian (A1)

Education

University of Technology of Compiègne

Compiègne, France

5-year Computer Science and Engineering Degree (equiv. MSc) — GPA: **4.96/5.0** — *Sep 2015 — expected Aug 2021*

- **Computer science** — algorithms & data structures, formal language theory, complexity, object-oriented & logic programming
- **Information technology** — network architecture, database design and query
- **Operations research** — routing (TSP, VRP), optimization (LP, CP, DP), logistics, Monte Carlo
- **Mathematics & Statistics** — calculus, linear algebra, probability, estimators, hypothesis testing, confidence interval
- **Physics** — acoustics, sensors, signal processing, structure and properties of materials, chemistry (organic, mineral), geometrical optics

Riga Technical University

Riga, Latvia

Exchange student — *Aug 2017 — Jan 2018*

- **Artificial Intelligence** : graphs and tree search algorithms
- **Programming** : object-oriented & assembly
- **Business Analytics & Project Management** — agile methods, planning, risk analysis, budgeting

Online courses

Coursera

Self-Directed Learning — *Since 2017*

- **Stanford (Andrew Ng)** — Machine Learning
- **deeplearning.ai** — Neural Networks & Deep Learning, Improving Deep Neural Networks: hyperparameter tuning, regularization & optim.
- **University of Michigan** — Python Data Structures, Applied Plotting, Charting & Data Representation in Python, Applied Machine Learning

Extracurricular Activity

Since 2018 **Attendee,** DataVenture — *Data Science student organization*

Since 2018 **Training Manager & Photograph,** Pics'art

2019 **Local Representative,** ESN Compiègne — *non-profit international student organisation*

2018 **Head of External Communication,** ESN Compiègne — *non-profit international student organisation*

2016 — 2017 **President,** La Foulée UTCéenne — *Running Club*

2015 — 2017 **Volunteer Rescue Worker,** La Croix Blanche — *First-Aid Organization*