Hugo **Le Moine**

DATA SCIENCE · PYTHON PROGRAMMING

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Work Experience

Airbus Commercial Aircraft — *Acoustics Department*   *Toulouse, France*
MACHINE LEARNING APPRENTICE ENGINEER   *Sep. 2018 — present*

- **Anomaly Detection** : designing of a solution to automatize cleaning of audio recordings in a cost-effective way, using machine learning (DBSCAN, IsolationForest) to detect anomalous noise
- **Data Analysis** : identification contributors to specific aircraft noise variability; investigation of production quality drifts
- **Predictive Maintenance** : literature review and experimentation using autoencoders to anticipate component failure based on vibrations

[All the above projects were carried out in autonomy]

Projects

SNCF — *French National Railway Company*   *Paris, France*
EXPERIMENTAL TEAM PROJECT, SUPERVISED BY SNCF RESEARCHERS   *Feb. 2020 — June 2020*

- **Dynamic Programming** : optimizing economic performance of a train by searching the most efficient design of operation 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) — CGPA: **4.96/5.00**   *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)

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
- **University of Michigan** — Python Data Structures, Applied Plotting, Charting & Data Representation in Python, Applied Machine Learning in Python

Extracurricular Activity

Since 2018	**Attendee**, DataVenture —	*Data Science student organization*
Since 2018	**Training Manager & Photographer**, Pics'art —	*photography skills development organization*
2018 — 2019	**Local Representative, Head 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*