



linkedin.com/in/florent-haffner-ml

github.com/florent-haffner

(+33) 6 98 67 18 45

Lyon, FRANCE

Florent HAFFNER

Data Scientist | PhD student

I am a PhD student in Digital Signal & Image Processing.

My thesis subject: "A global approach from lab to plant on the use of deep learning and near-infrared spectroscopy".

Outside of work, I am interested in climbing, reading, photography, minimalism & finance.

SKILLS

Tools	Linux systems (2013-now), AWS, Git, LaTeX & Markdown
Technologies	TensorFlow/Keras 2.10, PyTorch 2.1, Scikit-learn, ONNX, SHAP, PySpark 3.1
Languages	Python 3.10, Matlab R2022b, Java 11
Communication	French (native), English (advanced)

EXPERIENCE

Data Scientist | PhD student **11/2022 – now**
IFP Energie Nouvelles | Research and innovation Lyon, FRANCE

- PhD Thesis : "A global approach from lab to plant on the use of deep learning and near-infrared spectroscopy".
- Digital Signal and Image Processing, Deep learning, Machine Learning, Chemometrics

Data Scientist | Apprentice **10/2020 – 09/2022**
Arkema | Industrial IoT Lyon, FRANCE

- Built timeseries analysis & forecasting algorithms to identify events on chemical reaction.
- Built a datalake to gather and organize industrial operation knowledge for a digital twin.
- Industrialized large distributed solutions on AWS (Serverless) used through Europe : CI/CD, infrastructure-as-code, testing.

Software Developer | Intern **02/2020 – 08/2020**
Finalgo | FinTech startup Lyon, FRANCE

- Built a web platform powered by graph algorithm to help Company leaders to find more easily better fundraising.
- Participated in the recruitment process.

Process Engineering Technician **10/2011 – 02/2018**
Multiple companies - Industrial chemistry Mulhouse, FRANCE

- 6 years of Production Technician (including 2 years in control room).

EDUCATION

PhD, CentraleSupélec | Université de Paris-Saclay **11/2022 – now**
 Paris, FRANCE

- Scientific field : Digital Signal and Image Processing
- Transversal courses · Refining Processes & Petroleum Products ; Renewable energies ; Energy economics ; Scientific integrity
- Specialty courses · AI for energy & power generation ; Research & information ethics

Master of Computer Science (Specialty Data-science), Ynov **02/2020 – 07/2022**
Activity & associations: Lyon, FRANCE

- Built and facilitated a projects incubator (Computer Science & Machine Learning) composed of 44 people working on 6 projects.

Bachelor of Software Engineering, Université de Haute-Alsace **10/2018 – 07/2020**
Activity & associations: Mulhouse, FRANCE

- Participation on several Hackathons (Nuit de l'info, RoboCupJunior, Rally Miage).
- Created numerous in-house MOOC on Software Engineering.
- Regular participant of a Meetup focusing on software engineering (Software Craftsmanship).

RESEARCH PUBLICATIONS

Journal Articles

- F. HAFFNER, M. LACQUE-NEGRE, A. PIRAYRE, D. GONÇALVES J. GORNAY, M. MOREAUD, "IPA: A deep CNN based on Inception for Petroleum Analysis", Fuel (Elsevier), 2024, Journal review in progress.
- F. HAFFNER, M. LACQUE-NEGRE, A. PIRAYRE, D. GONÇALVES, J. GORNAY, M. MOREAUD, "IPA under the light: An explainability study (XAI) of a Deep CNN for NIR analysis of Petroleum.", Chemometrics and Intelligent Lab. (Elsevier), 2024, Writing in progress.

Conference

- F. HAFFNER, "Deep learning for NIR spectroscopy: overview and thoughts", in HelioSPIR, Montpellier, France, 2023.