

Florent FOREST

AI Engineer | Data & ML Expert with Research & Industry experience

PhD in Machine Learning | ISAE-Supaero Engineer (MSc)

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AI Engineer & Researcher with 8 years of experience within both industry and academia, spanning diverse industrial sectors including aerospace, railway, biotech and agriculture. Experienced in machine learning, building large-scale data-driven applications and developing advanced algorithms on complex industrial data sets. Always eager to learn, collaborate and share knowledge.

💼 WORK EXPERIENCE

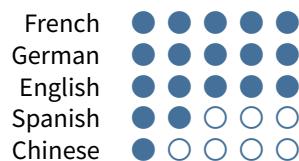
Today	AI Software Engineer, ECOROBOTIX, Yverdon, Switzerland AI Engineering & MLOps <ul style="list-style-type: none">➢ Training, evaluation and deployment of deep learning vision models➢ Profiling and performance optimization of embedded models on robotics device➢ Continuous improvement of software tools & pipeline automation	Computer vision Deep learning MLOps Edge ML TensorRT PyTorch Python Docker Airflow CI/CD
2025	Scientist, EPFL (ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE), Lausanne, Switzerland Researcher at IMOS (Intelligent Maintenance and Operations Systems) lab led by Prof. Olga Fink. Research topics : <ul style="list-style-type: none">➢ Explainable AI & interpretable deep learning➢ Domain adaptation➢ Computer vision, Signal processing Other activities and skills : <ul style="list-style-type: none">➢ Scientific and technical writing/presentation➢ Teaching at EPFL (lectures and exercises)➢ Mentoring PhD, Master and Bachelor students Applications : <ul style="list-style-type: none">➢ Predictive maintenance, PHM➢ Fault detection, diagnosis and prognosis➢ Vision-based automated inspection	Research Machine learning Predictive maintenance PHM PyTorch Python
2022	Data Scientist & Software Engineer, NAGI BIOSCIENCE SA, Lausanne, Switzerland Development of data analysis and software tools for revolutionary worm-on-chip technology combining biology, robotics, optics, microfluidics and AI, for ethical and efficient bioassays. <ul style="list-style-type: none">➢ Built an end-to-end automated data analysis pipeline (AWS), increasing throughput and efficiency➢ Developed deep learning models for microscopy image analysis (object detection and segmentation)➢ Extracted relevant features from images and videos, in collaboration with biologists➢ Front-end and back-end development, databases, APIs➢ Embedded software development for robotics/optics/fluidics control➢ Agile development, Management of subcontractor software devs	Machine learning Cloud AWS PyTorch Spark Node.js Vue.js Electron Docker Python Javascript
2021	Data Scientist, SAFRAN AIRCRAFT ENGINES, Paris area, France Industry research contract. My role is to enable large-scale analytics of data generated by civil aircraft engines during flights, to develop scalable engine health monitoring algorithms, and apply research to industry use cases. <ul style="list-style-type: none">➢ Designed a generic Big Data processing pipeline for flight data analytics on the production cluster➢ End-to-end implementation of health monitoring methodologies based on unsupervised learning➢ Development and deployment of visualization apps➢ Support engineers on distributed computing technologies	Data science Machine learning Aerospace Hadoop Hive Spark Scala Keras PyTorch Python MongoDB
October 2017	Intern, AIRBUS — CENTRAL RESEARCH & TECHNOLOGY, Toulouse, France	
April 2017	Studied and applied various Artificial Intelligence methods to extract and query information from unstructured technical documents (scanned PDF, text, images) for cognitive assistant applications. <ul style="list-style-type: none">➢ Developed several deep learning models (computer vision, natural language processing) and chatbots➢ Designed an interactive Polymer web application for data annotation and prediction➢ Reading research articles	Deep learning Python Keras TensorFlow spaCy Rasa NLU HTML/CSS Javascript Polymer MongoDB REST

August 2016	Intern, CNES (FRENCH SPACE CENTER), Toulouse, France
March 2016	Implementation and validation of a Manual Thrust mode in an AOCS (Attitude and Orbit Control System) simulator, in order to analyze end-of-life experiments on the CoRoT satellite (PROTEUS family).
	Space mechanics Signal processing Matlab Simulink
June 2015	Intern, IRAP (RESEARCH INSTITUTE IN ASTROPHYSICS AND PLANETOLOGY), Toulouse, France
February 2015	Contributed to developing an open-source scientific library enabling astrophysicists to perform statistical analysis of gamma ray data measured by telescopes.
	Astrophysics C++ Python Git
July 2014	Intern, ONERA (FRENCH AEROSPACE LAB), Toulouse, France
	Development of real-time software and deployment on Linux embedded systems.
	Embedded systems C Linux

EDUCATION

2021	PhD in Computer Science (Machine Learning), UNIVERSITÉ SORBONNE PARIS NORD, Paris area, France
2018	LIPN lab (CNRS UMR 7030), A3 team (Machine learning). Research topics : <ul style="list-style-type: none"> ➢ Unsupervised learning (clustering, deep learning, self-organizing maps, visualization...) ➢ Scalable machine learning algorithms ➢ Big Data processing and distributed computing (map-reduce) ➢ Industrial applications in aerospace on aircraft engine flight data (time series)
2017	Supaero Engineering Diploma (MSc), ISAE-SUPAERO, Toulouse, France
2013	Specialization in Data & Decision Sciences and Space Systems Engineering
2016	Erasmus semester, TU BERLIN, Berlin, Germany
2015	Master Luft- und Raumfahrttechnik (aerospace engineering).
2013	Preparatory classes, LYCÉE JANSON-DE-SAILLY, Paris, France
2011	Preparation in Mathematics, Physics and Computer science for the top French engineering schools.
2011	Baccalauréat S, LYCÉE MARIE LAURENCIN, Mennecy, France
2008	equiv. A-levels with highest honors.

LANGUAGES



SKILLS

Programming	Python, Scala, R, Java, C, C++, Caml, Flutter, Web (front/back)
Tools & Frameworks	Hadoop, Spark, PyTorch, scikit-learn, pandas, Airflow, TensorRT
Databases	SQL, Hive, Athena, PostgresQL, MongoDB, SQLite
Collaborative & DevOps	Git, CI/CD, Docker, Artifactory/Nexus
Cloud	AWS (S3, EC2, SageMaker, Lambda, RDS, Athena, SFN)
OS	GNU/Linux, Windows
ML Applications	Computer Vision, Natural Language Processing, Time Series (sensor signals), Audio/Speech processing
Industries	Aerospace, Railway, Civil Engineering, Biotech, Agriculture
Soft skills	Mentoring, Teaching

REFEREES

Prof. Olga Fink
Associate professor, EPFL
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Dr. Jérôme Lacaille
Emeritus expert, SAFRAN GROUP
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Prof. Mustapha Lebbah
Full professor, UNIVERSITÉ PARIS SACLAY
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