

Nathan Randriamanana



Data Scientist - Statistician

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Professional experience

Full-Stack Data Scientist

Business Statistics Directorate – INSEE

Montrouge

Early September 2023

- Served as the central integration point between business teams, innovation lab, IT architects, data science, DevOps, and production support for the design, evolution, and operation of a production-grade ML application
- Delivered end-to-end ML workflows for APE classification, from data preparation to deployment via MLOps, including monitoring and decision-support tools for model reliability and traceability
- Trained, retrained, and validated machine learning models supporting both NAF rev 2 and NAF 2025 classifications. Defined ML APIs specifications and their integration into the core Sirene application, coordinating implementation with IT delivery teams
- Led the functional design and delivery of NAF 2025 integration into Sirene 4, enabling dual APE coding, with an MVP released ahead of schedule using an agile approach
- Coordinated large-scale data annotation campaigns, including tooling setup and facilitation of expert domain networks
- Contributed to production operations, including incident resolution and handling of complex business registry cases. Defined functional, system, and data specifications to drive the evolution, maintenance, and operational integrity of SIRENE, the national business register
- Developed dashboards and decision-support tools for business users, enabling self-service access to insights
- Contributed to AI technology watch and internal best-practice workshops

Data Scientist Intern

Data Science Hub – Statistics Flanders

Brussels, Belgium

March 2023 - August 2023

- Applied NLP techniques to contextualize public sentiment indicators derived from Twitter/X data
- Performed time series analysis to identify seasonality patterns in population satisfaction
- Used topic modeling approaches to categorize daily life events experienced by the population
- Explored statistical indicators to identify events contributing to satisfaction peaks

DevOps Intern

Technical Instruction and Innovation Division – INSEE

Montrouge

June 2022 - July 2022

- Designed and delivered training materials for the SSP Cloud platform (Onyxia instance hosted by INSEE)
- Developed skills in cloud technologies, open-source ecosystems, and data platforms

Data Scientist Intern – Cybercrime

Statistical Service of the French Ministry of the Interior (SSMSI)

Bercy

May 2021 - July 2021

- Analyzed emerging cybercrime patterns and modus operandi
- Produced statistical analyses on crime and cybercrime using machine learning and NLP

Conferences

Cloud Native Days France Conference

Talk presenting an MLOps return of experience at INSEEs

Centquatre - Paris

February 2026

Contributions to the INSEE Statistical Methodology Days (JMS 2025)

Two accepted submissions on coding methodologies, including

Jussieu

Novembre 2025

- the use of LLMs to train a classifier for a new statistical nomenclature
- presentation of the new TorchTextClassifiers library

Webinars on Economic Statistics Classifications and Artificial Intelligence

For Inserm, Statistics Netherlands, Statec Luxembourg, Eurostat, UNSD, and the SSP hub

online webinars

International Expertise and Capacity-Building Missions

ENSEA Faculty Training in MLOps

GENES training program for ENSEA faculty members – PHAS Project, World Bank

Abidjan, Ivory Coast

October 2025

Supervision of the 2nd Edition of the DataFID Challenge

DataFID challenge – Data Governance in Africa Project, Expertise France, funded by the European Union.

Abidjan, Ivory Coast

March 2025

Hackathon Mentorship on Tax and Customs Data in Africa

DataFID challenge – DataFID Project, Expertise France, funded by the French Treasury (DG Trésor)

Abidjan, Ivory Coast

June 2023

Participation in the 10% Program (Season 2)

Cross-ministerial upskilling program focused on AI and data through collaborative projects.

Architected a solution using vector databases and high-performance LLM serving to enhance institutional document valorization.

Paris

September 2023 - November 2023

Dataiku Challenge

Developed an application to extract insights (summarization, sentiment analysis, etc.) from news articles

Ensai, Bruz

February 2022

ACPR Tech Sprint

Hackathon organized by the Fintech & Innovation Unit of the French Prudential Supervision and Resolution Authority (ACPR), focused on explainability of “black-box” credit risk algorithms.

Banque de France, Paris

July 2021

Skills

Programming

R, Python, SQL, Git (Github/Gitlab), Docker, Kubernetes, Helm, Argo, Bash, Shell

Markup

Markdown, Typst, Quarto, LaTeX

Languages

French (native), English (advanced), German (beginner), Malagasy (native)

Education

MSc Data Science for Public Decision Making

EMOS (European Master in Official Statistics)

ENSAI, Rennes

2020 - 2023

Preparatory Program, Lycée Clémenceau

Undergraduate coursework includes id. Mathematics, Physics, IT, engineering sciences, Philosophy, English, German

Reims, France

2017 - 2020