Mathieu Nalpon

mathieunlp@gmail.com ⋄ mathieunlp.github.io ⋄ +33 677786248

EDUCATION

CentraleSupélec - Paris Saclay University — Paris, France
Master's degree in Mathematics and Data Science — *Sept. 2019 – Oct. 2022*

Cachan School — Cachan, France
Bachelor of Engineering — *Sept. 2016 – July. 2019*

EXPERIENCE

Weborama — Paris, France
Machine Learning Engineer — *Oct. 2023 -*

- **WeboMind - URL recommendation**: Contextual targeting tool generating lists of relevant URLs from a prompt for campaign creation.
  - Crawling and embedding of web pages.
  - Optimize the search with FAISS and store in Milvus.
  - Create a clustering tool for insight and deploy the project.

- **Data engineering for AutoML**: Build data pipeline to predict the conversion ratio of users given the next add campaign.
  - Create a package to collect data and optimize the SQL queries.
  - Build a machine learning model and plug the data pipeline with it. Orchestrate with Airflow.
  - Deploy in production with monitoring (ML metrics: ROC, Acc; API: RPM, latency, memory)

ArianeGroup Defense & Space — Paris, France
Data Scientist — *Oct. 2020 - Oct. 2022*

- **Autonomous neutralization of a launcher in flight**: Research on state-of-the-art solution for autonomous neutralization of a launcher in flight.

- **Optimize the computation of time before neutralization**: Apply statistical methods and geometry to improve the resulting time before neutralizing a launcher

- **Prediction of the time left for a dangerous rocket before neutralization**: Created from scratch an algorithm that computes, given a trajectory and a specific deviation in 3D space, the time left for a rocket before it's neutralization.

PROJECTS

- **Fine-tuning SAM (Meta) for ring segmentation**: Use a Lora adapter with a hand-made dataset to solve the problem of segmenting single and pair of rings.

TECHNICAL SKILLS

- **Languages**: Python, C++, Bash

- **Libraries**: PyTorch, Optuna, Ray, FAISS

- **Frameworks & Tools**: Git, Docker, Kubernetes, Snowflake, ElasticSearch, Sentry, Prometheus, Grafana, MLFlow