# Ambroise RENAUD
## Data Scientist

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📍 Toulon (83200), France
ℹ Born : 04/08/1997 at Nice, France

Currently in my last year of my engineering studies at École Nationale Supérieure d'Ingénieurs Sud Alsace (ENSISA), I am specialized in Computer Science. In addition to that, I did several internships in the fields of Machine Learning and Data Science, topics I deepened during my academic exchange at the Swiss Federal Institute of Technology in Lausanne (EPFL). I have a great interest in research, especially artificial intelligence applied to the maritime field and I am actively looking for a PhD thesis in this field.

## 🎓 EDUCATION

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|---|---|
| 2019 - 2020 | **EPFL (École polytechnique fédérale de Lausanne)** |
| | *Exchange Year | Machine Learning, Data Science, Learning Analytics, Mathematics of Data, Optimization for machine learning, Systems for data science, Deep learning, Advanced algorithms.* **Overall score : 5.25/6** |
| 2017 - 2020 | **Ecole Nationale Supérieure d'Ingénieurs Sud Alsace ENSISA** |
| | *Engineer's degree in Computer Science & Networks* |
| 2015 - 2017 | **Institut Stanislas Cannes** |
| | *CPGE PCSI-PSI, Physics, Mathematics, Automation. (Two-year highly selective classes to prepare for the competitive exams to the Grandes Écoles.)* |
| 2012 - 2015 | **Lycée Mont Saint Jean** |
| | *Baccalauréat S, Mathematics, Life Sciences* |

## 💼 EXPERIENCE

**January 2021 — July 2020**

**Data Scientist Intern, NAVAL GROUP - CEMIS (CENTRE OF EXCELLENCE FOR INFORMATION AND SIGNATURE MANAGEMENT), France**

Internship at Naval Group Ollioules CEMIS : Optimization of Artificial Intelligence Algorithms for systems integrity, applied to Naval Defense.
  > Linear Algebra
  > Probabilities
  > Machine Learning
  > Evolution strategy (ES), genetic algorithms (GA) and differential evolution (DE)

`Python` `Pytorch` `Elasticsearch`

**September 2019 — June 2019**

**Research Intern | Data Knowledge and Operational Effectiveness, NATO STO-CMRE - CENTRE FOR MARITIME RESEARCH AND EXPERIMENTATION, Italy**

Internship at The North Atlantic Treaty Organization (NATO) :
  > Machine learning classifiers applied to Automatic Identification System (AIS) data. (Random Forest, Decision Tree, Perceptron, KNN, Logistic Regression, SVM)
  > Feature selection
  > Hyperparameter optimization
  > Data analysis
  > Data Mining

`Machine Learning` `Data Science` `Data Mining` `Python` `LaTeX`

**September 2018 — June 2018**

**Data Engineering Intern, CRC MINES PARISTECH - RISK AND CRISIS RESEARCH CENTRE, France**

Internship at the Risk and crisis research centre (CRC) :
  > Data collection (deployment of an Automatic Identification System (AIS) station, Web scraping)
  > Data analysis
  > Data warehousing (PostgreSQL)
  > Java development

`Java` `NodeJS` `PHP`

## 🌐 LANGUAGES

| | |
|---|---|
| **French** | Native |
| **English** | TOEIC 960/990 |

## ➕ STRENGTHS

  > Independence
  > Decision making
  > Time management

## ☰ Skills

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|---|---|
| **Python** | Hands-on experience : internships, labs and semester projects focusing on implementing Machine Learning and Deep Learning models using Pytorch, sklearn, NumPy, Pandas or PySpark for cluster-computing. |
| **Mathematics** | Convex formulation for data analytics problems, optimization and statistical analysis. |
| **Software engineering** | Theoretical courses as part of Engineer's Degree in Computer Science and Networks. Familiarity with modern software engineering best practices (version control, unit testing, design patterns and code writing convention). |
| **Others** | Java, C++, SQL |

## 🖥 Projects

### Self-supervised learning for MRI sampling
Feb 2020 – Jul 2020

Master semester project at EPFL Laboratory for Information and Inference Systems – LIONS.
Create a clean PyTorch re-implementation of a cutting-edge reinforcement learning based sampling algorithm. Deliverable were a well documented codebase including tests as well as a clear and legible report.

`Python` `Pytorch` `Reinforcement Learning`

### A deep learning approach to predict children inductive reasoning strategies
Sep 2019 – Feb 2020

Master semester project at EPFL Computer-Human Interaction for Learning & Instruction laboratory - CHILI
This project focused on predicting children's next answers given their previous ones in a quiz environment. This projects covered models and methods to prepare temporal data and implement recurrent neural network for training and inference.

`Python` `Keras` `Pytorch`

### Determine hormone signalling activation in human breast cancer samples
Oct 2019 – Dec 2019

🔗 https ://github.com/ambroisernd/epfl-breast-cancer-ml-project
Machine Learning project at EPFL Swiss Institute for Experimental Cancer Research - Brisken laboratory. The goal was to use data collected by the laboratory to cluster patients according to their cells receptivity to hormones given their gene expression.
**Best Machine Learning project award**.

`Python` `Sklearn` `NumPy` `Pandas`

### Exploring French National Trafic injuries data
Oct 2019 – Jan 2020

🔗 https ://epfl-ada-project.github.io/
Applied Data Analysis project at EPFL. The goal was to explore a dataset provided by the French road safety observatory (ONISR), composed of more than 474,000 accidents from 2005 to 2018. Deliverable were : Python code & notebooks, a website, a poster.

`Python` `Pandas` `NumPy` `Scipy.stats` `Seaborn`

### Learning to discover : The Higgs Boson Machine Learning Challenge
Oct 2019 – Nov 2019

Project 1 of Machine Learning course at EPFL
Solve the Higgs Boson Machine Learning Challenge without using any deep learning or machine learning library.

`Python` `NumPy`

### Generating music with artificial intelligence (neural approach)
Apr 2019 – Jun 2019

🔗 https ://github.com/ambroisernd/projet2AMusic
Semester project at ENSISA. Given a patern of n notes, a neural network automatically generate the end of the song.
**Best grade (18/20)**

`Python` `Keras`

## ❝ References

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