Alexis Cartier

Data scientist,
M.Sc. in Computer Science

French (Native)
English (Fluent)

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Interests

- Big Data
- Machine Learning

Languages

- Java, Python, Scala
- SQL

Other interests

- Music (drummer since the age of 7)
- Skiing, Swimming

Education

2015 - 2018 **M.Sc., Computer Science** — EPFL
École Polytechnique Fédérale de Lausanne, Switzerland
Specialization: Data Analytics

2012 - 2015 **B.Sc., Computer Science** — EPFL
École Polytechnique Fédérale de Lausanne, Switzerland
3rd year orientation: Mathematics

2010 - 2012 **Technology University Degree in Computer Science (DUT)** — IUT
Institut Universitaire et Technologique d'Annecy, France

Experience

Current - Feb. 2021 **Software engineer** — Logitech, Lausanne
Software engineer at Logitech working on playmaster.gg, a training tool for Counter-Strike Global Offensive.

Feb. 2021 - Oct. 2018 **Data scientist** — Datapred - EPFL Innovation Park
Working on various machine learning projects in collaboration with large industrial companies involving time series data, either related to direct material procurement, industrial optimization or anomaly detection. The role notably implies the following responsibilities:
- Analyze and understand client requirements
- Identify, collect and prepare the internal and external data required to address the client's challenge
- Develop machine learning pipelines using Datapred's software (modeling options, error minimization, prototyping)
- Interact on a frequent basis with the client and present results periodically

June 2018 - Jan. 2014 **Java teaching assistant** — EPFL, Lausanne
Teaching assistant to the Java programming language. I was also in charge of helping online learners on the corresponding courses provided by the school on the Coursera platform.

Feb. 2018 - Aug. 2017 **Research assistant intern** — Oracle Labs, Zürich
Worked on distributed learning for automated machine learning pipelines at Oracle Labs. The goal was to reduce the runtime induced when training multiple machine learning models configured with different hyperparameters. The key tasks were:
- Understanding the current AutoML framework in place
- Developing and documenting a scalable program responsible for distributing the work among clusters and collecting the results
- Interacting with the research team on a daily basis and presenting weekly updates

Sept. 2012 - March 2012 **Software developer** — Doctors Without Borders, Geneva
Developed a prototype mobile application on Android devices to improve data collection for medical teams on the ground. The application was based on OpenMRS, an enterprise electronic medical record system. The project has been tried for a mission about children's malnutrition in Tchad. The end goal was to help the medical staff with data collection so that they could be more responsive and apply appropriate treatments based on the patient's medical history.

Academic & personal projects

Aug. 2018 - Feb. 2018 **Improving responsiveness of online aggregation algorithms**
Machine Learning, Time series, Python
Master thesis supervised by Martin Jaggi, professor in the Machine Learning and Optimization Laboratory at EPFL and Thomas Oriol, director at Datapred. My work introduces how machine learning models can be aggregated over time series data and shows how we can improve responsiveness of such aggregation algorithms when regime changes occur (grade 5.25/6).

June 2017 - Feb. 2017 **Byzantine fault tolerant machine learning**
Machine Learning, Distributed Learning, Java, Python
Semester project in the Distributed Computing Laboratory at EPFL where we tested the robustness of different aggregation strategies to various attacks (for example with adversarial noisy data or gradients) by experimenting different gradient descent update rules. In particular, we test how the method developed in the lab (Krum) performs (grade 6/6).

2016 **Proton pack**
Java
Contributed to the proton pack library, an open source project enhancing the new Java 8 stream package.

June 2015 - Feb. 2015 **Staged parser combinators**
Parsing, Scala
Bachelor semester project supervised by Martin Odersky, professor and director of the Programming Methods Laboratory at EPFL and Manohar Jonnalagedda. The idea was to demonstrate that we can implement efficiently interleaved parsers in a high-level language for parsing network protocols (slides of the presentation available here - grade 5.5/6).

2012 **Games Quiz**
Java, Android SDK
Development of a video games quiz application on Android as a personal project (100 000+ downloads and 4000+ ratings).