Alexis Cartier

EPFL Master Student

Computer Science
Data Analytics speciality

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Stackoverflow profile

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Interests

- Big Data
- Machine Learning
- Interaction Design

Languages

- Java, Scala, Python
- SQL

Coursework

Pattern classification and machine learning , Foundations of software , Distributed algorithms , Database systems, Applied data analysis , Distributed information systems , TCP/IP networking , Software engineering (recommendation letter available)

Other interests

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

Education

2015 - Jan. 2018 (Expected) — **M.Sc., Computer Science** — EPFL
Lausanne, Switzerland
Specialization: Data Analytics

2012 - 2015 — **B.Sc., Computer Science** — EPFL
Lausanne, Switzerland

2010 - 2012 — **Technology University Degree in Computer Science (DUT)** — IUT
Annecy, France

Experience

Sept. 2015/6 - Jan. 2016/7 — **Java Teaching Assistant** — EPFL
Teaching assistant for an introductory course to the Java programming language. I'm also in charge to answer questions on the corresponding MOOCs on Coursera.

Jan. 2014 - May 2014 — **Java Teaching Assistant** — EPFL
Teaching assistant for an oriented object practice course. Students deepen their knowledge of the Java language through a large project. They learn to use the different types of collections (lists, hash tables, trees, ...) and are also introduced to other concepts (generics, anonymous classes and functions, immutability, ...). They also learn the important design patterns (Decorator, Composite, Builder, ...).

March 2012 - Sept. 2012 — **Software Developer** — Doctors Without Borders
The goal was to create prototype mobile applications in order to easily collect datas for teams on the ground. The project has been tried for children's malnutrition in Tchad.
Technologies used: Java (Android), SQL, jQuery, OpenMRS Data model

Projects

Feb. 2017 - Current — **Byzantine fault tolerant machine learning** — Distributed Programming Lab
In this master semester project, we attempt to see how different aggregation strategies are robust to various machine learning attacks (for example noisy data and gradients). Assuming a set of n workers, up to f of them being byzantine, we experiment different gradient descent update rules based on a combination of the vectors proposed by the workers. In particular, we test how the method developed in the lab (Krum) performs.

Feb. 2015 - June 2015 — **Staged Parser Combinators (Scala)** — Programming Methods Lab
The aim of this bachelor semester project was to show how we can implement interleaved parsers in order to parse network protocols. The slides of the presentation are available here.
This project has been supervised by Manohar Jonnalagedda and Martin Odersky. I got an overall grade of 5.5/6.