JULIEN HARBULOT
DATA SCIENTIST
SOFTWARE ENGINEER

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EDUCATION

École Polytechnique Fédérale de Lausanne (EPFL)   **Sept 2014 – Aug 2020**

- **M.Sc in Data Science**: machine-learning 5.5/6, deep-learning 5.5/6, applied data analysis 5.5/6, ...
- **B.Sc in Computer Science**: compilers 6/6, software engineering 5.75/6, functional programming 6/6, ...
- **Propaedeutic in Mathematics**: advanced linear algebra 6/6, metric spaces 6/6, discrete maths 5/6, ...
- Also completed france-IOI.org training on olympiads' level competitive programming and algorithms.

AWARDS

- **(2019) EPFL Forecasting contest: 1st place** Predicted electric consumption via time series forecasting.
- **(2014) EPFL Best 1st year project in Humanities** Presented to 1000-strong audience.
- **(2012) Mathematical Olympiads: 3rd place** Montpellier Academy (France).

PROFESSIONAL EXPERIENCE

Data Science Intern   **ELCA Informatique SA**   **Feb – Aug 2020 (ongoing)**

- Built a novel end-to-end deep-learning classifier for transportation modes detection based on time series of smartphone sensors data. $\implies$ Improved state-of-the-art accuracy by 5%.
- Built and released a smartphone application for iOS and Android to collect a training set of annotated transportation data. $\implies$ Over 580h collected thanks to 40 volunteers.
- Technology used: python, tensorflow, MLFlow, traefik, git, docker, Google Compute Engine, dart, bash, flutter, deep learning, convolutional neural networks (cnn), residual networks (resnet).

Student Intern   **Neuroengineering Lab, EPFL**   **Sept – Feb 2020**

- Refactored the python code of a deep learning based graphical application: reduced coupling between classes, removed duplication, switched part of the pipeline to functional programming instead of OOP. $\implies$ Reduced codebase by 20% while implementing new features. Received project grade of 6/6.

Teaching Assistant   **EPFL**   **2015 – 2016**

- Answered students' questions and corrected exams.
- Classes: *Object-oriented C++ | Functional programming in Scala | Geometry for mathematicians*.

PROJECTS

Team Leader   **CS-305 Software Engineering**   **Sept 2016 – Jan 2017**

- Team leader for a 5-person team. $\implies$ Received best possible reviews from my peers.
- Designed a plugin-based note-taking app for Android (java) using SOLID, MVC, OOP design patterns.
- 100% unit-tests coverage

32 personal projects published on GitHub: https://github.com/julien-h

SKILLS & INTERESTS

- **Programming languages:**
  - Advanced: C++, python, java.
  - Intermediate: scala, C.
  - Have used: bash, dart, javascript, php.
  - Ability to learn new languages quickly.
- **Natural languages:** French (native), English (C1 Advanced), German (A-levels).
- **Technical skills:** artificial intelligence (machine learning, deep learning), software engineering, statistics, scientific rigor, algorithms.
- **Soft skills:** independence, problem solving, willingness to learn, leadership, public speaking.
- **Interests:** artificial intelligence, software automation, finance, applied research, learning new skills.