Francesco **Salvi**

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Edu**cation**

EPFL   *Lausanne, Switzerland*
MSc in Computational Science and Engineering   *Sept. 2021 - present*
- Focus on **Machine Learning** (DL, ANNs), **Data Science** and Optimization theory.
- Class delegate, representing 40+ students to the Section, the Executive Board and the General Student Association.

University of Bologna   *Bologna, Italy*
BSc in Physics   *Sept. 2018 - July 2021*
- Grade: **110/110 cum laude**.
- Final GPA: **29.96/30**, **top 0.25% of all UniBo students.**

Pro**jects**

A data-driven Political Compass
Applied Data Analysis course project   *Sept. 2021 - Dec. 2021*
- Analyzed a datased of ~180 mln quotations with **Apache Spark** within **Python**.
- Leveraged **Topic Extraction** and **Sentiment Analysis** to infer a new Political Compass and curated a data story about US politics.

Disambiguating Voynich Manuscript transliterations
Machine Learning course project   *Sept. 2021 - Dec. 2021*
- Fine-tuned word embedding models (**fastText, Word2vec**) on the task of disambiguating uncertain transliterations, with scarce data.
- Built a benchmark on Italian and Latin and obtained a model with overall accuracy of 86%, subsequently employed with an unknown script.

Investigating congestion with Macroscopic Fundamental Diagrams
Bachelor Thesis   *Feb. 2021 - Jul. 2021*
- Improved a traffic simulation in **C++** on the Emilia-Romagna region, using origin-destination geodata from TIM users.
- Post-processed data with **Python** to extract the MFDs and investigated the effects of hysteresis and spatial heterogeneity wrt congestion.

Simulation of high-energy collisions with Monte-Carlo methods
ROOT course project   *Oct. 2019 - Dec. 2019*
- Reproduced decay processes in a particle collision with a **Monte Carlo simulation**, and analyzed the results using **ROOT framework**.

Ext**racurricular Activity**

Lead The Future
Mentee   *Sept. 2020 - Present*
- Selected to be part of LeadTheFuture, a **leading mentorship organization** for Italian students in STEM, with acceptance rate < 20%.

Orienta|Me   *Bologna, Italy*
Mentor   *Apr. 2021 - July 2021*
- Selected as Mentor in Orienta|Me, a project to favour university orientation by advising high school students in their academic choice.

Italian Association of Physics Students (AISF)   *Bologna, Italy*
President of Bologna Local Committee   *June 2019 - June 2020*
- Elected President of Bologna Local Committee of AISF, an association gathering toghether more than 1400 Italian physics students.
- Organised conferences, scientific aperitifs, LaTeX courses, visits to research centres and social events with 50+ participants.

Ski**lls**

Languages	Italian (native language), **English** (C1 IELTS), **French** (B2 EsaBac)
Programming	C++, Python, MATLAB.
Others	ROOT, LabView, LaTeX, Git, GnuPlot.

Awa**rds**

2020, 2021   **1st place (tie)**, @UniBo Study Grant for students that have distinguished themselves for outstanding academic records. Awarded to **< 0.5% of students** from the whole university.