



ALEXANDER APOSTOLOV

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SUMMARY

Motivated data science student with strong academical background and theoretical as well as applied skills in machine learning and algorithms and work experience with various teams and organisations.

EDUCATION

Master of Science in Data Science Ecole Polytechnique Fédérale de Lausanne (EPFL)	Sept. 2020 – Jan. 2023 Lausanne, Switzerland
Bachelor of Science in Communication Systems <i>Minor: Data Science</i> Ecole Polytechnique Fédérale de Lausanne (EPFL) <ul style="list-style-type: none">Average: 5.77/6.0 (top 1% of students)Exchange student at the University of Toronto in 2018-2019	Sept. 2016 – Sept. 2019 Lausanne, Switzerland
Swiss bilingual matura <i>Orientation: Physics and Applied Mathematics</i> Collège Rousseau <ul style="list-style-type: none">Bilingual curriculum English/French, obtained with Honors	Sept. 2011 – July 2015 Geneva, Switzerland

HONORS AND AWARDS

Master's Excellence Fellowship EPFL offers a limited number of fellowships to Master students with outstanding academic records.	2020-2023
Prize for 2nd best Bachelor GPA Out of all graduating students from all faculties (out of 1000+ students) at EPFL.	Sept. 2019
Prize for best poster in Global Issues EPFL awards teams with best project and presentation in the Global Issues course (out of 250 teams).	Sept. 2017
Prizes for final high school GPA Best GPA in Geneva and best GPA in the Physics and Applied Mathematics orientation.	July 2016

WORK EXPERIENCE

Research Assistant for the economic security division International Committee of the Red Cross (ICRC) <ul style="list-style-type: none">Created digital surveys used in communities affected by malnutrition. My new surveys replaced the previous paper versions as they allowed the team to personalize them instantly and remotely and save time for centralizing answers and analyzing the data.Developed and maintained a database to monitor the COVID-19 related situation in prisons where the ICRC is present. This was achieved with limited resources, as a lot of staff was relocated due to COVID-19 and in a short time frame as the collected information was used to prioritize emergency operations.	Jan. 2020 – April 2020 Geneva, Switzerland
Project assistant in the ICT team International Committee of the Red Cross (ICRC) <ul style="list-style-type: none">Evaluated the technical capabilities of SD-WAN products of three companies in order to choose which one to use to upgrade the WAN infrastructure of the ICRC on over 300 sites over the globe and save money by using a more modern technology.Ran and developed a protocol to test products on typical sites of the organization which have special constraints such as energy limits, unreliable telecommunication and need to protect the data from theft from local governments and other armed groups.	Aug. 2019 – Nov. 2019 Geneva, Switzerland

Administrative assistant

GEloge Foundation, student housing in Geneva

July 2017 – Aug. 2018

Geneva, Switzerland

- Created program to save time by dynamically comparing the internal databases with the accounting database of another program to detect financial irregularities.

PROJECTS AND COMPETENCIES

Machine Learning Optimization <i>Pytorch, SVRG, MetaInit</i>	Fall 2020
Stochastic variance reduced gradient methods for training Deep Neural Networks	EPFL MLO lab
Machine Learning and Computer Vision <i>Pytorch, U-net</i>	Fall 2020
Available area for solar panel detection	EPFL Lab of Solar Energy and Building Physics
Machine Learning <i>Pytorch</i>	Fall 2020
Classification of physics experiment to detect Higgs boson with ridge regression	EPFL
Computer vision and NLP <i>Tensorflow</i>	Fall 2019
Image caption generator	
Data analysis and visualization <i>Python, Pandas</i>	Fall 2020
Analysis of flight travel patterns from GPS traces of 5 million users	EPFL
Markov chains and MCMH optimization <i>Python</i>	Fall 2020
5G network deployment using Metropolis-Hastings	EPFL
Network traffic and simulation <i>Matlab</i>	Fall 2018
Internet traffic simulator	University of Toronto
Physics and simulation <i>Java</i>	Fall 2016
Panorama simulation of the Swiss Alps	EPFL

TEACHING EXPERIENCE

Practical Programming in Python (Teaching Assistant)	Spring 2021
University of Lausanne	Lausanne, Switzerland
Algorithms (Teaching Assistant)	Fall 2020
EPFL	Lausanne, Switzerland
Computer Networks (Teaching Assistant)	Fall 2020
EPFL	Lausanne, Switzerland
Advanced information, computation, communication II (Teaching Assistant)	Fall 2018
EPFL	Lausanne, Switzerland

EXTRA PROFESSIONAL EXPERIENCE

Head Organizer	Sept. 2015 – Sept. 2016
National Conference of the European Youth Parliament in Switzerland	Geneva, Switzerland
<ul style="list-style-type: none"> • Found partners and sponsors to cover a budget of 100'000 CHF and did the accounting after the event. • Organized activities, catering and accommodation for 200 participants for 6 days. • Lead a team of 15 volunteer organizers. • Invited guest speakers such as the Under-Secretary-General of the United Nations, Mr. Michael Moller and the Director-General of the International Committee of the Red Cross, Mr. Yves Daccord. 	

SKILLS**Languages:** English (Fluent, C2), French (Native), Bulgarian (Native), German (Good skills, B2)**Programming:** Python (PyTorch, Pandas, NumPy, SciPy, Matplotlib), Java, Scala