Adrian **Löwenstein**

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French Nationality | Born 21.11.1993

Soft Skills

Qualities Reasoning • Analysis • Adaptability • Curiosity • Creativity • Team Spirit

Language French [Native] • English [C1] • German [B2]

Technical Skills

Computer Science Classical Machine Learning • Reinforcement Learning • Deep Learning • Computer Vision • Probabilistic Inference [Gaussian Processes, Bayesian Optimisation] • Computational Finance • Networking [Routing, TCP-IP]

Electrical Engineering Electrical Grid Control & Modelling • Electricity Market • Energy Storage • Energy Generation • Model Predictive Control • State Space Control • Computational Optimisation

Programming Python [Pytorch, Pandas, Numpy, Scikit-Learn] • C • C++ • Matlab [YALMIP] • LaTeX • Git • Javascript [D3.js]

Education

Imperial College London — London, United Kingdom | Sept. 2019
MSc in Computing | Machine Learning

Ecole Polytechnique Fédérale de Lausanne | EPFL — Lausanne, Switzerland | July 2018
MSc in Electrical Engineering | Smart Grids Science | Average : 5.31 / 6.0

Eidgenössische Technische Hochschule Zürich | ETHZ — Zürich, Switzerland | Aug. 2015
Exchange in 3rd Year of BSc

Ecole Polytechnique Fédérale de Lausanne | EPFL — Lausanne, Switzerland | Feb. 2016
BSc in Electrical Engineering | Average : 4.8 / 6.0

Lycée Pasteur — Neuilly-sur-Seine, France | July 2012
Preparatory Course for Engineering Schools

Professional Experience

Ecole Polytechnique Fédérale de Lausanne | EPFL — Lausannne, Switzerland | 2015 - 2018
Teaching Assistant
Electrical Systems and Electronics I | Dr. Adil Koukab | Spring 2017 & 2018
Electrotechnics I | Pr. Oliver Martin | Autumn 2015 & 2016
Microcontrollers | Pr. Alexandre Schmidt | Spring 2015

Commissariat à L'Energie Atomique | CEA — Le Bourget du Lac, France | June 2016 - Aug 2016
MSc Internship
Internship at *Institut National de l'Energie Solaire* (INES) - Development and validation of energy management strategies in Smart Grids. Study of battery models and implementation in a battery simulator. Evaluation on a Solar Microgrid of battery charging strategies.

Airbus Helicopters UK — Oxford, United Kingdom | June 2011 – July 2011
Internship
Introductory Internship done between the French Baccalaureate and the beginning of my studies.

Extra Curicular

Associative EPFL Electrical Engineering Students Association • EPFL Photography Club

Others Photography [Digital, Analog] • Video Making • Hiking • Skiing • Discovery Travelling [Peru, China, Iran]

Projects

Gaussian Processes for Optimal Sensor Position
Imperial College, London | Summer 2019

Master Thesis

Employment of a Gaussian Process (GP) model to calculate the optimal spatial positioning of sensors to study and collect air pollution data in big cities. Validation with data assimilation software. Ongoing Project.

Provision of Multiple Services to the Grid with Plug-In-Electrical-Vehicles
EPFL, Lausanne | Spring 2018

Master Thesis | Poster of the Project

Using Electrical Vehicles for providing services to the grid, such as Frequency Regulation. Optimisation problem using real transportation data to determine the regulation capacity for the electricity markets. Using Matlab, Gurobi solver and YALMIP. Supervised by Pr. C. Jones.

Tweet Awareness - Data Analysis
EPFL, Lausanne | Autumn 2017

Group Project | Data Story

Data Analysis Project on how to measure the **awareness** of people about dramatic events around the world and how to correlate it to **cultural distances**. Data **extraction** from twitter using Python (Selenium, BeautifulSoup). Data **analysis** using Python (Pandas, Sklearn). Data **visualisation** using Javascript (D3.js). Group Project created in the context of the Applied Data Analysis course of Pr. R. West.

Robust restoration in DG-incorporated distribution networks
EPFL, Lausanne | Autumn 2017

MSc Semester Project

Formulation and implementation of the **Restoration Problem** in Electrical Grid, a Mixed-Integer-Non-Linear Optimisation Problem. Implementation using Matlab and the Gurobi solver. Supervised by Dr. R. Cherkaoui.

ETR applied to Fault Detection in Power Networks
EPFL, Lausanne | Spring 2017

MSc Semester Project | Conference Paper

Investigating the physical application of the Electromagnetic Time Reversal (ETR) principle, in the context of fault detection in **Electrical Grids**. Supervised by Pr. F. Rachidi. Three weeks residency spend at **Amir-Kabir University in Tehran** for this project.

H2O2 Fuel Cell and Electrolyser Analysis and Monitoring
EPFL, Lausanne | Spring 2016

BSc Project | EPFL Microgrid

Implementation of a **Monitoring System** (in LabView) for a Fuel Cell and Electrolyser in the context of a Lab Microgrid. Supervised by Pr. M. Paolone.