Auguste Baum

MSc graduate in Data Science at EPFL

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Experience

July 2023—Nov. 2023 **Participant in Summer of Nix 2023,** *NixOS Foundation, Paris (remote)*
- Developed Nix package and module for open-source projects, of which Pretalx and Rosenpass.
- Experienced mob programming, a low-latency work technique enabling fast skill improvement.

Sept. 2022—March 2023 **AI research intern,** *Swisscom Digital Lab, Lausanne*
- Conducted a research project on explainability of neural networks for big-data tabular datasets.
- Developed reproducible research pipeline system using `pytask`.

2021—2022 **Co-founder & CTO,** *Resilio, Lausanne*

Built the backend of Resilio Tech, an LCA tool for digital sobriety consultancy, in Django.

2020—2021 **Digital Sobriety consultant,** *Zero Emission Group, EPFL, Lausanne*
- Developed automatic PowerPoint pipeline in Python, speeding up the auditing process by 30%.
- Co-authored reports on environmental impact of digital technology in multinational companies.

Education

2020—2023 **MSc Data Science,** *EPFL, Lausanne*

ML, information security and big data methods. MSc thesis on Explainable AI.

2017—2020 **BSc Mathematics & Statistics and Physical Chemistry,** *UCL, London*

First class Honours. Dissertation on Machine Learning for chemical property prediction.

2016—2017 **Classe préparatoire,** *Lycée Saint-Louis, Paris*

Admitted in PC*. Foundations of Physics, Chemistry, Mathematics and Computer science.

Projects

2022—2023 **MSc project: "Path regularization for continuous counterfactual explanations",** *Swisscom & EPFL, Lausanne*

Developed a novel generative model regularization technique to produce high-quality explanations of deep neural network predictions. Supervised by Prof. Pascal Frossard and Dr Daniel Dobos.

2021 **Machine learning project: "Automatic detection of available area for rooftop solar panel installations",** *EPFL, Lausanne*

Built a neural network model to detect the empty space on rooftops in satellite images.

2020 **BSc project: "Machine Learning methods for Property Prediction",** *UCL, London*

Reviewed recent approaches to chemical property prediction with machine learning.

Languages

English and French (native), Spanish (B2), Japanese (basic)

Technical Skills

Functional programming Haskell, Scala

Object-oriented programming Python, Java

ML / Data	PyTorch
Software development	Git
Web development	HTML, CSS, Django
Big data	Spark
Scientific computing	Matlab, Mathematica, Sage
Miscellaneous	Nix, Vim

(Last updated: 2023-11-04)