Auguste Baum

MSc graduate in Data Science at EPFL

▪ *Data privacy* ▪ *AI safety* ▪ *Free software* ▪ *Functional programming* ▪

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Experience

July 2023—Oct. 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)

Skills and tools

Functional programming Haskell, Scala

Object-oriented programming Python, Java

ML & Data	Python, PyTorch
Software development	Git, Vim, Rust, Nix, Golang
Web development	HTML/CSS, Django
Big data	Spark
Scientific computing	MATLAB, Mathematica, Sage