Auguste Baum

Software engineer, EPFL MSc graduate

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Experience

May 2024—Now
Software engineer, *Probabl, Paris*
- Develop Probabl's product, skore
- Participate in development of scikit-learn ecosystem

Dec. 2023—March 2024
Full-stack developer, *Resilio, Paris (remote)*
- Investigated performance issues in Resilio's infrastructure, improving request-response time by a factor of 2.
- Improved Resilio's testing infrastructure, cutting backend test time by a factor of 15.

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.
- Discovered mob programming, a low-latency work technique enabling fast skill improvement.

Sept. 2022—March 2023
AI research intern, *Swisscom Digital Lab, Lausanne*
- Conducted research project on explainability of AI for big-data tabular datasets.
- Developed reproducible research pipeline 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 an AI regularization technique to produce high-quality explanations of neural network predictions. Supervised by Prof. Pascal Frossard and Dr Daniel Dobos.

2022 **Semester project: "D-voting",** *DEDIS lab, EPFL, Lausanne*
Contributed to d-voting, a blockchain-based electronic voting system.

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 (native), French (native), Spanish (B2), Japanese (basic).

Technical Skills

Functional programming	Haskell, Scala	**Object-oriented programming**	Python, Java
ML / Data	PyTorch	**Big data**	Spark
Software development	Nix, Docker, Git, Vim, Rust, Go	**Scientific computing**	Matlab, Mathematica, Sage
Web development	HTML, CSS, Django, React		