

OLIVIER LABAYLE

PHD STUDENT, BIOMEDICAL AI CDT 📍 EDINBURGH, UNITED KINGDOM 📞 +44 7947373973

◦ DETAILS ◦

Edinburgh
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◦ LINKS ◦

[Website](#)
[Github](#)
[Linkedin](#)

◦ COMPUTATIONAL ◦

Julia
Python
SQL
Linux, Bash, Git
Docker, Singularity, Conda, DVC
Nextflow
HPC

◦ MATHEMATICAL ◦

Targeted Learning
Probability Theory
Statistical Inference
Causal Inference
Gradient Boosting
Deep Learning

◦ LANGUAGES ◦

French
English

👤 PROFILE

I am passionate about the development and application of modern statistical and causal inference methods to improve our understanding of human biology and the mechanics of diseases.

📁 EXPERIENCE

PhD student, Biomedical AI CDT at University of Edinburgh, Edinburgh - Scotland 2022 — Present

Targeted Learning (van der Laan and Rose, 2011) of interacting genetic variations on human traits:

- Contributed to the redaction of: [Dispensing with unnecessary assumptions in population genetics analysis](#).
- Authored [TarGene](#), a Nextflow pipeline for the estimation of causal effects in population genetics via Targeted Learning.
- Created [TMLE.jl](#), a general purpose Julia package for Targeted Maximum Likelihood Estimation.
- Implemented the Stack (DH Wolpert - 1992) meta-learning algorithm in the [MLJ](#) framework.

Machine Learning Engineer at Abolis Biotechnologies, Evry - France 2017 — 2020

A biotechnology company designing genetically engineered micro-organisms in order to industrially produce chemicals of interest.

- Modeled chemical-reaction/enzyme affinity using graph/convolutional Siamese neural networks in PyTorch
- Designed, developed and administrated a metabolic database aggregating chemical reaction, small compound and protein data from heterogeneous sources
- Delivered a recommender system web application (Django) to expose the previously described technical blocks to biologists in the company
- Reconstructed metabolic networks of microbial ecosystems and pitched to Bpifrance which led to the [Microbiome Studio](#) spin-off

Data Scientist at Twenga Solutions, Paris - France 2015 — 2017

A web advertisement company bidding on web banners to increase it's clients ROIs

- Improved conversion rate prediction (AUC +28%) by developing and deploying an online-learning logistic regression.
- Modeled items time-to-conversion using Cox regression

🎓 EDUCATION

Biomedical AI MScR, University of Edinburgh, Edinburgh - Scotland 2020 — 2021

Graduated with Distinction

Big Data and Statistics MSc, Ecole centrale de Lyon, Lyon - France 2011 — 2015

★ ADDITIONAL

IDG Dream Challenge

Prediction of Drug-Target binding bioactivity (pKd). Ranked 3rd and 8th (top 1%) on Spearman and RMSE respectively.