OLIVIER LABAYLE

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

DETAILS

Edinburgh
United Kingdom
+44 7947373973
olabayle@gmail.com

LINKS

Website

Github

Linkedin

COMPUTATIONAL

Julia

Python

SQL

Linux, Bash, Git

Docker, Singularity, Conda, DVC

Nextflow

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 8th and 3rd on RMSE and Spearman respectively.