Olivier Labayle

PHD STUDENT, BIOMEDICAL AI CDT

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

Mathematics

Targeted Learning, Statistics, Causal Inference, Gradient Boosting, Deep Learning

Languages

French

English

Profile

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.

Education

PhD student, University of Edinburgh, Edinburgh - Scotland

2021 — 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.
- Developed Targene, a Nextflow pipeline for the estimation of causal effects in population genetics via Targeted Learning.
- Developed TMLE.jl, a general purpose Julia package for Targeted Maximum Likelihood Estimation.
- Contributed to the MLJ framework by implementing the Stack (DH Wolpert - 1992) meta-learning algorithm.

Biomedical AI MScR, University of Edinburgh, Edinburgh - Scotland

2020 — 2021

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

2011 — 2015

Employment

Machine Learning Engineer, Abolis Biotechnologies, Evry - France

2017 — 2020

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

- Designed and developed graph/convolutional siamese neural networks (Pytorch) to match chemical reactions with candidate enzymes
- Designed, developed and administrated a metabolic database aggregating chemical reaction, small compound and protein data from heterogeneous sources
- Built a recommender system web application (Django) to expose the previously described technical blocks to biologists in the company
- Reconstructed metabolic networks of microbial ecosystems which led to the Microbiome Studio spin-off

Data Scientist, Twenga Solutions, Paris - France

2015 — 2017

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

- Developed and deployed an online-learning logistic regression to estimate the conversion rate of billions of items.
- Modeled items time-to-conversion using Cox regression

Additional

IDG Dream Challenge

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