# **Portfolio Overview**



#### Main academic research projects

- Master's thesis: "Monitoring deforestation from satellite imagery" (Computer Vision and Time Series)
- Master's research project (year 1) untitled "Decoding Speech from Invasive Brain Activity", in partnership with the Department of Neurosurgery (Ass. Prof. C. Herff) and Data Science (Dr K. Driessens) of Maastricht University

### Deep Learning, Knowledge Graphs, NLP academic projects

- Implementation of a LSTM neural network which aims at predicting laser signal in a recursive fashion - hyperparameters tuning (batch normalization, learning rates, optimizers etc.) with a report containing the explanation of the architecture (Keras in Tensorflow 2.0)
- Information retrieval and text mining project to connect the community of investigator researching on covid-19 - tool used: NLP libraries, Neo4J and Stanford Core NLP
- "Financial trends prediction from tweet sentiment-analysis of knowledge graphs built from tweets and financial indicators on the S&P 500" (graded 9/10) - technologies used: LSTM neural network, RDF mapping files, SPARQL queries, statistical and financial analysis

#### **Academic ML Projects**

- Portuguese wine quality prediction using PCA and multilinear regression using Python
- Implementation of LDA, Logistic regression and its regularization (Lasso and Ridge) using scikit-learn and numpy
- Implementation of classifiers evaluation using numpy
- Implementation of a multi-features randomized logistic regression from scratch including automatic visualization of hyperparameters tuning (learning rate, Lasso and Ridge Regression)

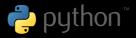
#### Hackathon

5th team at the Quantitive Management Initiative Hackathon 2021

## **Academic programming projects**



- An app for the management of travel orders of Paris-Dauphine University's professors/researchers using a geolocation API (Agile Methodology, Travis CI, Maven)
- A time-sharing processor allocation simulator



- The study of the N-body problem in celestial mechanics
- The study of the double pendulum and its stochastic motion in dynamical systems
- A soccer team composition after designing and featuring MCDM algorithms



- A simulator of assembler language
- An airport manager