

JOSÉ LUCAS DE MELO COSTA

EDUCATION

- 2021 - 2023 **Engineer's degree (Double degree)** - Major in artificial intelligence
CentraleSupélec, University of Paris-Saclay - Paris, France
Grade: 16.72 / 20
- 2018 - 2023 **Computer engineering**
University of São Paulo - São Paulo, Brazil
Grade: 9.3 / 10

ACADEMIC EXPERIENCE

Machine learning intern *April 2023 - until now*

Commissariat à l'énergie atomique et aux énergies alternatives (CEA) - Saclay

- Project: Study of the embeddability of attention-based networks
- Task: Search and explore compression methods for visual transformers (ViT)
- Action: Quantization and knowledge distillation of tiny ViT
- Result: New quantization scheme, design of an integer-only ViT; preparing for paper submission

Technical skills: python, attention-based networks, knowledge distillation, model training,


Research intern *June 2022 - Sept. 2022*


Université Paris-Cité - Paris

- Project: Unsupervised anomaly detection on medical time series data
- Task: Create a new representation of the multivariate data that quickly outlines anomalous behavior
- Action: Use the latent space to create a graph and identify the anomalies using this graph
- Result: New graph-based method time series embedding

Technical skills: python, pytorch, autoencoders, optimization, parallel programming, anomaly detection

Research intern *April 2020 - Dec. 2020*

Petrobrás , **University of São Paulo** - São Paulo

- Project: Signal processing and machine learning for offshore production stations
- Task: Development of a solution to quickly detect mooring line failures (anchoring)
- Action: Proposal of a machine learning pipeline to classify the status of the stations
- Result: New method using the frequency of oscillation; presentation at an international conference 

Technical skills: python, signal processing (wavelets, STFT), SVM, LSTM

PROFESSIONAL EXPERIENCE

Software Engineering Intern *Jan. 2021 - June 2021*

"Vigilantes do Sono"  - São Paulo

"Vigilantes do Sono" is a startup that uses AI to help treat insomnia. Worked as a full-stack developer.

Technical skills: Typescript, React, NodeJS, SQL

Undergraduate teacher assistant - Algorithms and Systems Programming *Feb. 2019 - Dec. 2019*

University of São Paulo - São Paulo

The main tasks were solving exercises with the students and correcting homework.


Technical skills: Linux, C, C++

PROJECTS

Hopular Applied to Fraud Detection - LUSIS, CentraleSupélec - Paris *Sept. 2022 - April 2023*

Project to identify fraud in credit card transactions using modern Hopfield networks.

Chess & Learning - CentraleSupélec - Paris *Sept. 2021 - June 2022*

Study the explicability of machine learning algorithms on zero-sum games, running AlphaZero using the university's HPC. The work was presented at the ENS-Saclay multidisciplinary conference 

LANGUAGE SKILLS

- C1 (CEFR) in English; C1 (CEFR) in French; Native in Portuguese