Luiz Felipe Piochi

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EDUCATION

UNIVERSITY OF LORRAINE - IAEM | *PhD in Computer Science* — 2024 – ongoing
- *Thesis :* "Learning host-pathogen surface interactome to design novel therapeutics."

UNIVERSITY OF COIMBRA - DCV | *MSc in Cell and Molecular Biology* — 2020 – 2023
- *GPA : 3.9*; Extensive coursework in Bioinformatics, Statistics; Top 3% of the University

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EXPERIENCE

INRIA - CAPSID — Nancy, France
PhD Student — September 2024 – ongoing
- Working with advanced deep learning for protein design and drug development
- Developing a deep learning model for the prediction of protein-ligand interactions

ERBEL.eus — Bilbao, Spain
Genomics Data Scientist — June 2024 – Sep 2024
- Contributed to an EU-level and a national-level project for the study of beekeeping and metagenomics
- Built two automated metagenomics pipelines for NGS data processing, speeding up the in-house workflow more than 70%
- Processed and analyzed over 1TB of metagenomics sequencing data

BIOCANT - DATA-DRIVEN MOLECULAR DESIGN LAB — Cantanhede, Portugal
Bioinformatics Researcher — Nov 2021 – Dec 2023
- Developed and published a deep learning tool for drug-resistance prediction in a high impact bioinformatics journal
- Processed and analyzed multi-omics data from over 10 public datasets and hundreds of cell lines
- Established a pipeline for the virtual screening of over 300 compounds against proteins of interest in neurodevelopment

CNC-UC - MITOLAB — Coimbra, Portugal
Undergraduate Researcher — Oct 2019 – July 2020
- Implemented multiple metabolic assays and characterized the dynamics and patterns of different cancer cell lines
- Developed a brief in-house Python pipeline for the analysis and visualization of different data types, contributing to a 30% reduction in time spent on repetitive tasks by different project members
- Compiled and published project a in review format on a high impact ageing journal

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SKILLS

Programming Python, R, Bash, SQL, JavaScript, Snakemake

Frameworks numpy, pandas, torch, tensorflow

Languages Portuguese (native), English (fluent), Spanish (C2), French (A0), German (A1)

PROJECTS

GORGON — 2024
- *Python [Numpy, Pandas], R [Phyloseq, ggplot2], Snakemake*
- Developed a modular and scalable metagenomics pipeline for rapid processing and analysis of large-scale NovaSeq datasets
- Streamlined complex processes from raw data preprocessing to detailed reporting, yielding quick insights
- Designed for reproducibility across different computational environments and efficient handling of varying dataset sizes

DELFOS — 2023
- *Python [Numpy, Pandas, TensorFlow], R [Tidyverse, Seurat]*
- Developed an AI model learning from drug chemistry and multi-omics data, including single-cell data, to predict how cells will respond to different compounds
- Outperformed state-of-the-art algorithms at the time, achieving high regression metrics across several validation steps
- Published on Oxford University Press Bioinformatics