

# Eduardo Ribeiro

SOFTWARE ENGINEERING STUDENT @ FEUP · PORTO, PORTUGAL

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## Education

### Faculty of Engineering of the University of Porto (FEUP)

Sep 2017 - Present (Exp. Jul 2022)

INTEGRATED MASTERS (BSC + MSc) IN INFORMATICS AND COMPUTING ENGINEERING

Porto, Portugal

- **Current cumulative GPA: 18.47 / 20**; finished the 4th year out of 5
- **Relevant coursework:** Systems Architecture, Distributed Systems, Web App Development, Algorithms & Data Structures, Artificial Intelligence
- Received a **Merit Scholarship** in the 2018/19 Academic Year, given to the best students in Portugal.
- Part of the **Informatics Engineering Student Branch** , where I organized and participated in several events and workshops.


## Jobs & Experiences

### Amazon Web Services

Jun 2021 - Sep 2021

SOFTWARE DEVELOPMENT ENGINEER INTERN

Berlin, Germany

- Worked on performance improvements for the **Amazon Lookout for Metrics**  service.
- Decreased memory consumption of the training workflow by **~93%** and allowed a potential throughput increase from **50K time series to 1M time series**, by developing a pre-processing phase that converts datasets into a more efficient format.
- Performed extensive testing and performance benchmarking, in order to report execution times, memory consumption and CPU usage.

### INESC TEC

Feb 2020 - May 2021

RESEARCH ASSISTANT - "BIG DATA FOR ENERGY"

Porto, Portugal

- Developed a platform to foster energy analytics for R&D institutions, by automating energy and weather data collection and management.
- Automated energy data collection by making scripts that periodically fetch data from APIs of electricity data sources in Europe.
- Implemented missing values detection by developing a module that monitors DB with 130+ tables, each one with an average of 3 million rows.
- Allowed registered users to extract desired data by building an authentication layer and a REST API, and by helping create a user interface.
- Main technologies used: **Python, Django, Pandas, Apache Cassandra, RabbitMQ, Celery, Nginx, Vue.js, Docker, GitLab CI/CD.**

### Faculty of Engineering of the University of Porto (FEUP)

Feb 2021 - May 2021

TEACHING ASSISTANT

Porto, Portugal

- Helped students in the **IART - Artificial Intelligence** subject with search and optimization algorithms, and Machine Learning exercises.

### Critical Software

Jul 2020

SOFTWARE ENGINEER INTERN

Coimbra, Portugal

- Learned about the methodologies and tools used in critical projects, such as software for airplanes, trains and banks.
- Built a real time chat service using **Java** and **Kafka**, and an encryption/decryption system for smart meter data with **Java, SSL** and **XML**.


## Projects

### Labcentric - Monitoring and Management System for Laboratories

Oct 2020 - Jun 2021

LARAVEL (PHP), HTML/CSS/JAVASCRIPT, POSTGRESQL, PYTHON, MQTT, NODE.JS, RASPBERRY PI, DOCKER, NGINX, HEROKU

Team of 8 people

- **Team leader** of a project developed for the **Dr. Ricardo Jorge National Health Institute** .
- Developed a web app for management of reagents, samples, procedures and executions, results, and other important data for the institute.
- Developed a system that monitors user actions during a lab procedure, by identifying QR Codes on reagents and recognizing voice commands.
- Allowed users to configure input/output devices that best suit their needs, by designing an extensible and scalable plugin-based architecture.

### Distributed Backup Service for the Internet

May 2020 - Jun 2020

JAVA, SHELL

Team of 4 people

- Developed a distributed P2P system with the purpose of backing up files divided in chunks in other peers.
- Protected the system against faults and raised its stability and scalability by implementing and using the Chord Protocol.
- Assured the privacy and integrity of the messages, and increased system security by implementing secure communication channels with JSSE.
- Achieved high degrees of concurrency and parallelism by using thread pools and non-blocking I/O.

### Covid Forecast Tool

May 2020 - Jun 2020

PYTHON, JUPYTER NOTEBOOK, SKLEARN, PANDAS, NUMPY, MATPLOTLIB, SEABORN, KAGGLE DATASETS

Team of 3 people

- Created a tool that predicted Covid-19 cases and deaths for various countries/regions, with ~90% accuracy, by training several regression models using Covid-19 data from a Kaggle dataset that contained the confirmed, death, and recovered cases for each day.
- Compared several Machine Learning algorithms, such as Neural Networks, Support Vector Machines, K-Nearest Neighbours and Random Forest.

## Skills

Git, Java, Python, Django, Javascript, C/C++, HTML/CSS/PHP, Laravel, Node.js, SQL, REST API, OOP - Proficient

**Technical** Docker, React, Go, CI/CD, Agile/Scrum, Unix/Linux - Medium Understanding

NoSQL, AWS - Prior Experience

**Languages** Portuguese (Native), English (Full Professional Proficiency), Spanish (Limited Working Proficiency)