

# 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: 18.37 / 20**; currently enrolled in the 4th year
- **Relevant coursework:** Algorithms and Data Structures, Distributed Systems, Web App Development, Databases, Artificial Intelligence
- Received a **Merit Scholarship** in the 2018/19 Academic Year, given to the best students in Portugal.

## Jobs & Experiences

### Research Assistant - "Big Data for Energy"

Fev. 2020 - Present

INESC TEC 

Porto, Portugal

- Developing a platform to foster energy analytics for R&D institutions, by automating energy and weather data collection and management.
- Automated energy data collection by creating scripts that periodically fetch data from APIs of electricity data sources in Europe.
- Implemented detection of missing values by creating software 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.
- Organized and presented a hands-on workshop for the INESC TEC Power and Energy Systems team, to showcase the tool for their future usage.
- Main technologies used: **Python, Django, Pandas, Apache Cassandra, RabbitMQ, Celery, Nginx, Vue.js, Docker, GitLab CI/CD.**

### Software Engineer Intern

Jul 2020

CRITICAL SOFTWARE 

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**.
- Built an automatic encryption/decryption system for smart meter data with **Java, SSL** and **XML documents**.

### Active Member

Nov 2019 - Present

NIAFEUP - INFORMATICS ENGINEERING STUDENT BRANCH @ FEUP 

Porto, Portugal

- Participated in and organized a variety of events/projects in different areas, ranging from Cybersecurity to AI to Competitive Programming.
- Established 5 sponsorships from companies for SINF, a Software Engineering event in FEUP, as part of its External Relations Department.


## Projects

### Lab 4.0 - Monitoring and Management System for Laboratories

Out 2020 - Present

PHP, LARAVEL, JAVASCRIPT, HTML, CSS, POSTGRESQL, PYTHON, FLASK, OPENCV, DOCKER, HEROKU, GITLAB CI/CD

Team of 8 people

- **Team leader** and Scrum Master of a project being developed for the *Dr. Ricardo Jorge National Health Institute* 
- Developing web app for management of reagents, samples, procedures and executions, results, and other important data for the institute.
- Developing a Computer Vision module that identifies QR Codes on reagents and monitors the scientist's steps when executing a procedure.
- Integrated a CI/CD pipeline for linting, testing, and deploying the application on a Heroku server.

### 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 using and implementing 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 an average of around 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.

### OpenCX - Mobile App for Conferences

Out 2019 - Jan 2020

FLUTTER, SQLITE, GHERKIN, BLUETOOTH

Team of 4 people

- Contributed to an open source project by developing a mobile app for conferences, that allows the user to see the conference's program and to make a custom schedule, receiving push notifications when an event is about to start and also allowing BT scanning for near-by events.

## Skills

### Technical

Git (3 years); Java (2.5 years); C/C++ (3 years); Python (1 year); Javascript (2 years); HTML5, CSS, PHP (1 year); Docker (1 year); SQL (1.5 years); NoSQL (Cassandra) (7 months); Node.js, REST API, OOP, CI/CD, Agile/Scrum, Unix/Linux

### Languages

Portuguese(Native), English(Full Professional Proficiency), Spanish(Limited Working Proficiency), French(Basic understanding)