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** for the 2018/19 Academic Year, for an average of **19.0 / 20 values.**

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*

NIAEFEUP - 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

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 country/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.

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.

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 was about to start and also allowing BT scanning for near-by events.

Security Van Routing ⤴   *Mar 2019 - May 2019*

C++, GraphViewer (Java API)   *Team of 3 people*

- Developed a program that calculates paths for trucks with pick up and delivery of items along the way, by implementing various "shortest path" (and similar) algorithms (Dijkstra, Floyd-Warshall, DFS, BFS, identifying articulation points, and more), as well as some heuristic algorithms.

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)