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**Education** 

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

Sep 2017 - Present (Exp. Jul 2022)

Porto, Portugal

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

• Current cumulative GPA: 18.37 / 20; currently enrolled in the 4th year

• 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, a REST API and a user interface/dashboard.
- · Organized a hands-on workshop for the INESC TEC Power and Energy Systems team, to showcase the tool for their future usage.
- · Main technologies used: Docker, GitLab CI/CD, Python, Django, Pandas, Cassandra, RabbitMQ, Nginx, Vue.js.

**Software Engineer Intern** 

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, by participating in its External Relations Department.

## **Projects**

### 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.
- Implemented secure communication channels with JSSE and increased concurrency and parallelism with 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 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.

#### 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 & Interests

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); **Technical** 

SQL (1.5 years); NoSQL (Cassandra) (7 months); Node.js, REST API, OOP, CI/CD, Agile/Scrum, Unix/Linux

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