

Miguel Pinto

ENGINEER IN THE MAKING

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Education

Faculty of Engineering of the University of Porto

Porto, Portugal

INTEGRATED MASTER IN INFORMATICS AND COMPUTING ENGINEERING, 18.01/20

July 2022

- Currently enrolled in the 4th year and member of NIAFEUP, an organization composed by Informatics and Computing Engineering students.

Experience

INESC-TEC

Porto, Portugal

RESEARCH ASSISTANT

July 2019 - Present

- Currently developing a distributed application for P2P energy trading in microgrids, taking into account the grid's maximum flow capacity.
- Responsible for planning, designing and implementing the system in an Ethereum blockchain, programming smart contracts in Solidity.
- Using Python and GraphQL to develop swift economic clearing algorithms.
- Using React (emphasis on Hooks), Redux-Saga and Web3.js for the application's interface and Truffle Suite - Truffle, Ganache and Drizzle for automated testing and launching smart contracts to the blockchain. Hosted on a Google Cloud VPS.

Critical Software

Coimbra, Portugal

SOFTWARE ENGINEER INTERN

July 2020

- Learned about the methodologies and tools used in designing robust distributed systems for critical projects, such as software for airplanes, trains and banks.
- Took part in several workshops for hard and soft skills. For example, building a real time chat service using Java and Kafka and building an automatic encryption/decryption system for smart meter data with Java, SSL and XHTML documents.

IKEA Industry Portugal

Paços de Ferreira, Portugal

ENGINEER INTERN

June 2019 - August 2019

- Planned and thoroughly studied the implementation of a computer vision system reinforced with machine learning to detect missing components on packaging lines.
- Developed testing scripts using Python and open source computer vision libraries like OpenCV.

NIAFEUP Informatics Student Branch

Porto, Portugal

MOBILE APP DEVELOPER

November 2019 - Present

- Member of a team of around 10 developers in charge of creating, from scratch, an application for Android and iOS, that allows any student of FEUP to access their schedule, exam dates, bus arrival estimates and other relevant information.
- Development using Flutter, Dart, Redux, Docker and a CI/CD methodology.

Projects

Distributed Backup Service for the Internet

- Developed a distributed P2P system in Java with the purpose of backing up, in other peers, files divided in chunks.
- Takes resistance to faults, stability and scalability into account by using the Chord Protocol. Also takes advantage of secure communication channels with JSSE. Achieves high degrees of concurrency and parallelism by usage of thread-pools and non-blocking I/O.

OpenCX

- Developed an open source mobile app that provides swift navigation between key spots in a conference, through the use of an interactive map.
- Development using Flutter, Redux, SQLite, Google Maps' API and GPS technology.

School Rides

- Program that calculates optimal paths for school buses, when picking up students from their homes.
- Uses advanced graph algorithms and heuristics to improve efficiency and calculation speed when dealing with NP-complete problems.
- Developed using C++ and GraphViewer (Java API).

Skills

Technical

C/C++, Python, Java, JavaScript, GraphQL, Solidity, Dart, PHP, React, Redux, Flutter, Docker, Truffle, Drizzle, Ganache, OpenCV, Graphene, HTML5, CSS, SQL, Git, SVN, Kafka, GNU/Linux, WebGL, ARMv8, OOP, Agile, Scrum

Languages

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