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.
- Member of NIAEFEUP, 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 critical projects, such as software for airplanes, trains and banks.
- Took part in several workshops for hard and soft skills. For example: learned how to make a real time chat service using Java and Kafka.

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 simple testing scripts using Python and open source computer vision libraries like OpenCV.

NIAEFEUP 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

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.

CaptureTheFrancesinha
- Member of NIAEFEUP's cybersecurity team of 10 students, participating in several online CTF contests.
- Focus on several cybersecurity topics, such as cryptography, binary exploitation, web exploitation and reverse engineering.

School Rides
- Program that calculates optimal paths for school buses, when picking up students from their homes.
- Used 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)

Interests   Backend, Computer Architecture, Computer Vision, Low-Level, Blockchain, Cybersecurity, Chess, Piano, Guitar