Miguel Fernandes

Machine Learning Engineer

Cellphone number: +351 911550082

Email: miguelnf3991@gmail.com

LinkedIn: miguelnevesfernandes

LANGUAGES

Portuguese ●●●●●

English ●●●●●

SOFT SKILLS

I communicate complex information to non-technical stakeholders effectively and collaborate well with colleagues to achieve common goals. I am adaptable and willing to learn new technologies and techniques. I also possess excellent time management and problem-solving skills, enabling me to juggle multiple projects and find creative solutions to complex problems.

TECHNICAL COMPETENCIES

- Python, SQL, basic knowledge working with C#
- Agile Methodologies
- Deep learning (TensorFlow, PyTorch)
- NumPy, Pandas, Matplotlib, Seaborn, Scikit-Learn
- Supervised Learning, Unsupervised Learning, Computer Vision and LLM's
- Microcontrollers

EXPERIENCE

Jun, 2023 – Ongoing

Machine Learning Engineer

Currently working in the segmentation of curvilinear structures using unsupervised learning techniques. My work involves utilizing advanced AI algorithms to identify and segment craquelure in paintings. Project developed in collaboration with the company **JTA: The Data Scientists**. Porto, Portugal.

Jun, 2021 – May, 2022

Research Fellow in Medical Devices

Implemented a rehabilitation medical device for bedridden and immobile patients, enhancing musculoskeletal, cardiac, and respiratory capabilities. Developed an advanced control device to assess patient performance and provide integrated insights to healthcare professionals. Project funded by the **European Regional Development Fund (ERDF)** under the System of Incentives for Technological Research and Development (SI I&DT), in collaboration with **Orthos XXI**, **Wiseware**, **Coimbra Health School (ESTeSC)**, and the **Electrical Engineering Department at ISEC (DEE-ISEC)**, resulting in a patent. Coimbra, Portugal.

Sept, 2021 – March, 2022

Robots Interaction @ Factory Trainee

Experience creating a UX/UI system prototype to improve the collaboration between Autonomous Mobile Robots (AMR) and human workers to increase production plant flexibility and efficiency. Due to the increasing presence of automation and robotics, this collaboration is essential, but many facilities are not equipped for it. To address this, best practices in logistics were analyzed, and trends in AMR and their impact on factory plant design were studied. Project funded by the Finnish company **Demola Global Oy**, in collaboration with **4iTec**, a solution provider company dedicated to Engineering to promote new competitive solutions, products and services for robotics, automation and machine learning operations. Coimbra, Portugal.

Mar, 2021 – Sept, 2021

Medical Devices Software Trainee

Experience developing a web server within the control platform of an instrumented walking aid device that provides effective auditory stimuli in real-time adjusted to the patient's gait pattern, specifically designed to analyze and facilitate the gait of individuals with Parkinson's disease (based on the ESP32 microcontroller). The system enables the presentation of collected data in real-time on a web interface and includes a software platform for integrating, organizing, and systematizing the data into a local database for analysis of the patient's gait pattern evolution over multiple sessions by healthcare professionals. Project implemented in the **DEE-ISEC**, in partnership with the **ESTeSC**. Coimbra, Portugal.

EDUCATION

Sept, 2021 – Ongoing

MSc in Computer Science & Engineering

Master of Science (MSc) degree in Computer Science & Engineering with a specialization in Intelligent Data Analysis at ISEC, Coimbra (Portugal). Graduate-level degree program that provides skills to pursue careers in data science, machine learning, AI and robotics. As well as knowledge to extract meaningful insights from complex datasets, apply algorithms to analyze data, build predictive models, and identify patterns or anomalies.

Sept, 2017 – Sept, 2021

BSc in Biomedical and Bioelectronics Engineering

Bachelor of Science (BSc) in Biomedical and Bioelectronics Engineering at the Coimbra Institute of Engineering (ISEC), Coimbra (Portugal). This program focuses on designing and developing medical devices and equipment in the field of biomedical engineering. Students will gain expertise in biomaterials, biosensors, bioinstrumentation, biomedical signal processing, medical imaging and healthcare systems. The program integrates engineering and medical knowledge to address challenges in the healthcare industry.

Sept, 2011 – Jun, 2016 (incomplete)

Integrated Master's in Electrical and Computer Engineering

Integrated Master's degree in Electrical and Computer Engineering at the University of Coimbra (UC), Coimbra (Portugal). Program of study that focuses on developing skills in transmission, distribution, automation, robotics, telecommunications, and information systems. Developing proficiency in digital and electronic systems, including embedded systems and highly integrated applications for diverse engineering fields.