André A. Fernandes

📱 (+351) 930 648 309 • ✉ andre.a.fernandes.1337@gmail.com

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Work Experiences

Research Engineer - SmartRetail Project   **June 2023 – October 2023**
Instituto Superior Técnico, University of Lisbon, PT

My duties included developing a Structure-from-Motion pipeline combining state-of-the-art Deep Learning algorithms like *LightGlue* (Lindenberger et al., ICCV 2023) with classic Computer Vision methods making use of RGB-D cameras to get accurate maps of different indoor and outdoor environments.

Education

Integrated Master's in Electrical and Computer Engineering (BSc. + MSc. ECE)   **September 2018 – Present**
Instituto Superior Técnico, University of Lisbon, PT

Majoring in Control, Robotics and AI, I'm currently working on my master's thesis on the *'Generation of Causally Disentangled Counterfactuals for Medical Image Analysis'*, having completed the previous years of courses with an average grade of 17.

Notable Courses:

- Probability and Statistics - 18/20
- Parallel and Heterogeneous Computing - 16/20
- Deep Learning - 19/20
- Artificial Intelligence - 19/20
- Image Analysis and Computer Vision - 19/20
- Optimization and Algorithms - 19/20

Exchange Semester - Part of the Msc. in ECE   **August 2022 – January 2023**
KTH - Royal Institute of Technology, Stockholm, SE

Took courses in topics related to my Major, namely AI, Reinforcement Learning, Computer Security, Image Processing and Computer Vision and even Applied GPU Programming.

Secondary Education - Sciences and Tecnhology Focus   **September 2015 – June 2018**
Escola Secundária José Afonso, Seixal, PT

Interests & Skills

I am specially interested in the areas of Robotics (Autonomous Systems) and Artificial Intelligence, but also in Parallel Computing, Data Science and their applications in the Life/Health Sciences.

Technical Knowledge

- Programming Languages: C/C++, Python, HTML+CSS+JavaScript
- Software: General knowledge of MATLAB and Simulink, PSpice/LTSpice and all Microsoft Office Tools
- Formal report writing with LateX
- Knowledgeable of the Jupyter Notebook environment and Google Colab for web-based computing.

Languages

- Portuguese - Native
- English - Level C2   (Proficient / Native)
- Spanish - Level B2   (General working knowledge)
- Swedish - Level A1   (Basic knowledge)

Honors

Academic Merit Certificates   **2019-2020 / 2020-2021 / 2021-2022**

- Awarded by Instituto Superior Técnico, for the curricular performance on the referenced consecutive academic years.

Diplomma of Merit   **October 2018**

- Received for the completion of my secondary education with a final average grade of 19/20.

Hobbies & Projects

Machine Learning / Deep Learning

- Consistently deepen my knowledge in the area by completing online courses (MOOC) from Universities such as Harvard, MIT or the University of Helsinki.
- I use the experience acquired through my own varied projects to further influence my performance on the specialization/Major in Control, Robotics and AI offered by Instituto Superior Técnico.

COVID-19 Tracker   **(https://my-covid-19-tracker.web.app/)**

- COVID-19 pandemic follow-up website developed in the early months of 2020, which started as a way to visualize the rapid evolution of the global situation as well as to learn more about creating and maintaining web pages.
- Implemented with HTML, CSS and JavaScript (React.js) and hosted through Google Firebase. (Note: currently somewhat outdated graphics-wise)

Music Production

- As a hobby, I have a habit of producing music. The fact that I have not had formal instruction/lessons is not an impediment, and working sporadically with instrumentalist friends I evolve in a self-taught way.
- Extensive knowledge of sound engineering programs like FL Studio, Pro Tools and general-purpose audio processing tools like Audacity.