Patrícia **Bota**

Machine Learning Engineer · PhD

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Summary

PhD candidate in Biomedical Engineering at University of Lisbon - IST and researcher at Instituto de Telecomunicações, specializing in the intersection of engineering and healthcare. My PhD journey has been marked by significant contributions to over 10+ projects (inluding 3 MSc thesis co-supervision), along with active involvement in 9 research collaborations (6 national, 3 international) and participation in 7 scientific fairs.

I have a strong publication record with 10+ papers in peer-reviewed journals (8 in Q1, 2 in Q2 categories, 4 under revision). Besides scientific output, my notable work includes the end-to-end development of EmotiphAI, a software platform for emotion recognition and collection of physiological signals in an audience, showcased at the 2019 WebSummit and European Commission's JRC Resonances III Art-Science Festival. This project underlined my skills in software architecture, front-end and back-end development, database management, and signal processing, reflecting my commitment to learning and applying new technologies in a dynamic research environment.

Work Experience

ScientISST

Lisbon, Portugal

Logistics Coordinator — *Jan. 2022 - Present*

- Designed and implemented an infrastructure to manage the ScientISST inventory.
- Organized and participated in numerous outreach activities to promote the ScientISST project.

Instituto Superior Técnico - University of Lisbon; Instituto de Telecomunicações

Lisbon, Portugal

PhD Student/ IT Researcher Assistant — *Jan. 2019 - Present*

- Development of Machine Learning algorithms for emotion recognition based on physiological data.
- Development feature extraction libraries for time series. Available in opensource in BioSPPy, a Python toolbox for biosignal processing
- Development of WiFi and Bluetooth communication module for group data collection using the ScientISST, BITalino, BITalino R-IoT, and FMCI XinhuaNet devices.
- Development of an user graphical interface to observe the collected data in real-time.

Centrum Wiskunde & Informatica

Amsterdam, Netherlands

Visiting Student — *Jan. 2022 - Jul. 2022*

- Development of Weighted Group Synchrony, a Deep Learning algorithm for group emotion recognition based on physiological synchrony.

Fraunhofer Portugal

Lisbon, Portugal

Research Assistant — *Feb. 2018 - Jan. 2019*

- Implemented Human Activity Recognition algorithms based on smartphone built-in inertial sensors.
- Developed TSFEL - a library for time series feature extraction and selection.

PLUX - Wireless Biosignals S.A.

Lisbon, Portugal

Summer Internship — *Jun. 2016*

- Developed BiToys - a game for ADHD children promoting relaxation and concentration.▪ Developed BiToys- a game for ADHD children promoting relaxation and concentration.

Education

NOVA Univeristy of Lisbon

Lisbon, Portugal

Master in Biomedical Engineering — *Sep. 2013 - Nov. 2018*

- Finished with grade of 16.

Instituto Superior Técnico - Univeristy of Lisbon

Lisbon, Portugal

PhD in Biomedical Engineering — *Jan. 2019 - March. 2024*

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Skills

Technical skills	Python, LaTeX, Git, PyTorch, TensorFlow, Keras, Scikit-learn, Pandas, Numpy, Matplotlib, Seaborn, Linux, MAC OS
Back-end	Flask, FAST API, SQLAlchemy
Front-end	Javascript, HTML, CSS, Jinja2, D3, Jquery