Patrícia **Bota**

Machine Learning Engineer · PhD

Rua Leitão de Barros 10 2E, Lisbon, Portugal

patricia.bota@tecnico.ulisboa.pt | patriciabota | patriciabota

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 focused on developing machine learning algorithms for emotion recognition from physiological signals, which resulted in a strong publication record with 10+ papers in peer-reviewed journals (8 in Q1, 2 in Q2 categories, 4 under revision).

Additionally, 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.

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 Resonances III Festival. This project underlined my multi-faced skills in software architecture, front-end and back-end development, and database management, reflecting my commitment to learning and applying new technologies.

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.

Education

NOVA Univeristy of Lisbon
Lisbon, Portugal

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

- Finished with grade of 16.

Fachhochschule Technikum Wien
Wien, Austria

Erasmus — *Sept. 2016 - Feb. 2017*

Instituto Superior Técnico - Univeristy of Lisbon
Lisbon, Portugal

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

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