

PERSONAL INFORMATION

Samuel do Nascimento Lago Pedro



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18 Apr 1990 | Portuguese

PERSONAL STATEMENT

Data Scientist | MSc in Biomedical Engineering

WORK EXPERIENCE

Jun 2017 – Present

Data Scientist

Institute of Systems and Robotics, Institute of Nuclear Sciences Applied to Health, Coimbra (Portugal)

Currently working on the "BIGDATIMAGE" project which has as goal the development of big data platforms to study the behaviour of patients with Autism disease.

I am using EEG data to understand Autism patients' behaviour in terms of affective cognition. The study is particularly focused on the relationship and correlation between gaze and facial expressions analysis.

Data analysis particularly Time-Frequency approaches, and machine learning techniques are used to model and develop analysis algorithms.

All the work is done using Python, C/C++, Matlab and R programming languages.

Feb 2017 – Jun 2017

Salesman

Staples Portugal

Responsibilities as a salesman at Staples in the Coimbra store:

- Greet and advise customers on technical issues about our products or services;
- Replace and manage stock store goods;
- Make product reservations;
- Contribute for the enhancement of the store in terms of safety, services, products and sales.

Dec 2013 – Aug 2016

Fellow Researcher as Data Scientist

Institute of Systems and Robotics, Coimbra (Portugal)

<http://ap.isr.uc.pt/>

Work consisted in processing a set of bio-signals gathered using wearable technologies (with ECG, electrodermal activity and accelerometers sensors).

Development of an algorithm for detection of Alzheimer's Patients related behaviours (psychomotor agitation), implementing it in real-time.

Implementation of an algorithm to estimate a person's BMI using simply an accelerometer placed in the individual's hip.

I've worked in the development of algorithms for facial expressions analysis, with particular emphasis in the study of speech.

More recently, I've been working on analysis and assessment of human emotions in virtual reality environments (e.g. simulation sickness) using bio-signals.

All the work was done using C/C++, Matlab and R programming languages.

Sep 2009 – Dec 2014

Accounting and bookkeeping clerk

Associação República dos Fantasmas

Mar 2010 – Aug 2014

Amateur Trader

Amateur trader in free time at Betfair, using mainly statistical prediction of the games' odds.

Jul 2010 – Jun 2011 **Repair Technician**
Olympus Service Facility Portugal - Tecnologias Ópticas e Digitais, Lda.
 Worked in Olympus repairing digital cameras, from the Olympus Fe 230 Family.

EDUCATION AND TRAINING

Sep 2008 – Sep 2013 **Master of Science (MSc), Biomedical Engineering**
Faculty of Sciences and Technology, University of Coimbra, Coimbra (Portugal)

Final Course Grade: 14/20

Final MSc Thesis Grade: 19/20

MSc Thesis: Development of an algorithm for detection of Alzheimer's Patients related behaviours (psychomotor agitation). A software was developed in Linux environment using Qt and C++ to integrate the wearable sensors (used to collect the bio-signals from patients). This device was connected to the PC by Bluetooth.

A model for classification was implemented capable of detection psychomotor episodes by performing signal processing, feature extraction and selection and finally classification. The model was constructed in Matlab programming language.

Jul 2012 – Sep 2012 **Software Development Technician**
AIBILI - Association for Innovation and Biomedical Research on Light and Image, Coimbra (Portugal)

Software developing with VTK and Qt in C++, and Matlab. The main purpose was to create a software on linux-based platform to visualize a 3D volume of retinal tissue from exam slices in the three main planes.

Aug 2011 – Jan 2012 **International Exchange Program for a semester**
Federal University of Pernambuco, Recife (Brazil)

Sep 2010 – Jan 2011 **English Course from the Faculty of Arts and Humanities**
Faculty of Arts and Humanities, University of Coimbra, Coimbra (Portugal)
 Post-Intermediate level in English.

PERSONAL SKILLS

Mother tongue(s) Portuguese

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	B2	B2	C1

Job-related skills

- Analysis and processing of bio-signals
- Development of models of Classification, Data Mining, Machine Learning
- Knowledge about Computer Vision, analysing and recognizing visual information
- Image processing and reconstruction
- Predictive modelling using regression
- Statistical Analysis
- Hardware integration
- Software development
- Creation and interpretation of mathematical models and algorithms
- Acquired knowledge in areas as Biology, Chemistry, Biochemistry, Physics, Mathematical, Electronics, Anatomy, Histology, Physiology, Statistics and Entrepreneurship

- Digital competence
- Python programming language as data analysis tool
 - Creation and implementation of algorithms using Matlab tool
 - Statistical Analysis using R, Matlab and SPSS
 - C, C++ and Java programming languages
 - Experience in OpenCV
 - Bluetooth programming
 - *Sockets* programming
 - Experience using Linux OS
 - Experience with VTK toolkit
 - Software development using Qt IDE
 - Basic experience using IDL
 - Skills using Latex

Driving licence B