Adrián Arnaiz Rodríguez

Computer and Data Science - AI Research

23/01/1997

Web page

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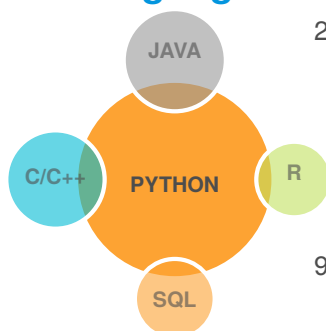Street, 8, 9B,
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Languages
Spanish
English (C1 - 176
Cambridge
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Programming Languages

Work Experience

2/20 - Ongoing   **Research staff**   University of Burgos

Researching about Data Mining with the Computer Science Department, specifically with *ADMIRABLE* and *DATAHES* research groups .
- European project Self-Regulated Learning: SmartArt.
- Plugin for Unreal to extract and analyze VR data in Real Time
- Platform *UBUMLaas*. University Web Page that allows to run ML experiments as a service with classical and custom algorithms like Random Balance or Rotation Forest.

3/21   **Open Source Contributor @ Lightly**   Lightly AI python library

Contributor of the Python Pytorch-based library Lightly [*Github* | *Python Doc*] which contains the cutting-edge methods of Self-Supervised Learning. Main contributor of *Lightly version 1.1.2* implementing the *Barlow Twins Algorithm from FacebookAI*. Congratulated by great researchers such as *Jerome Pesenti* (Head of AI @ FacebookAI).

1/20 - Ongoing   **Parkinson's Disease Detection and Monitoring through voice.**   Research

Data mining techniques (ML and DL) applied to use of biomarkers extracted from the voice for the detection of Parkinson. Link: *Official page with explanation, Notebooks and links to media press*.

09/19 - 12/19   **Inteligent Automation & RPA Consultant**   Ernst & Young

3 projects using RPA and ML:(1) Chatbot for managing Blue Prism processes through voice [internal project]. (2) Unbalanced Email Classification using DL [Telefónica]. (3) Payment tax process made with RPA with Fuzzy Name Matching problem inner [Xunta de Galicia - Public Sector].

12/18 - 07/19   **Research fellow at UBU**   University of Burgos

Research assistant scholarship in the Civil Engineering department of the University of Burgos, research group ADMIRABLE. Working with collaboration grant. Research in the project *Use of biomarkers extracted from the voice for the detection of Parkinson*, which is my final degree project (BSc Thesis), evaluated with honors.

Education

2/20 - 01/20   **MSc Data Science**   Universitat Oberta de Catalunya

GPA: 9,75 out of 10. Thesis: 9.6.
Higlihted Subjects: Advanced Statistics, Advanced models of Data Mining, Reinforcement Learning, Data Visualization and Network Science. **Mater's Thesis in colaboration with University Collegue of London (Dr. Baris Kanber)**: *Deep Convolutional Autoencoder for denoise T1 brain MRI* (9.6/10). 8 out of 10 subjects graded with honors.

9/15 - 7/19   **BSc Computer Science**   Burgos University

GPA: 8,9. Thesis: 9,8. **Extraordinary Award of Degree in Computer Engineering (Government Council of the University of Burgos)**. 11 subjects graded with honors.

Technichal Skills

- Machine Learning with Python (Deep understand of methods) and DL.
- Knowledge of ML Python libraries (Sklearn, Keras, Pytorch) and common Math and DataViz libraries (NumPy, SciPy, Pandas, matplotlib, ggplot...)
- Statistical Analysis with R and Python.
- Algorithmics.
- Knowledge of Data typology and data life-cycle.
- Concepts of Network Science and network modeling.
- Data Visualization with Tableau, Python, R and Gephi.
- ETL with pentaho.
- Analytic Databases and OLAP with Microsoft VS.
- Theorical design of Analytic Databases (also operational DB).
- All this skills leads to a good Knowledge Discovery performance.
- Solve analytical problems building ML models using quantitative, statistical and ML approaches.

Professional Interests

Mainly, keep improving my **Data Science and Artificial Intelligence** skills.

Data Science Profile, dominating statistical and mathematical concepts, storytelling, problem understanding and solving, Artificial Intelligence concepts, leading skills and team-work.

Publications

02/20	**Unveiling the informal structure of an academic field in Spain: a Network Analysis** VI COMSOTEC Workshop 2020 Conference Paper	
07/20	**Network analysis of co-participation in thesis examination committees in an academic field in Spain** XIV International Conference on Industrial Engineering and Industrial Managment - CIO Conference Paper	

Courses

09/20	**Summer School on Machine Learning and Big Data with Quantum Computing**	Porto University and IBM
06/20	**Advanced Deep Learning with Keras Course**	Data Camp
06/20	**Deep Learning in Python Track** 4 Courses: Concepts of DL, intro to Tensorflow, intro to Pytorch and advanced Keras.	Data Camp
07/20	**Biomedical Image Analysis Course**	Data Camp
06/20	**Image Processing with Python Track** 3 Courses: Image Processing in Python, Biomedical Image Processing, Image Processing with Keras.	Data Camp

Awards

01/2020	**Extraordinary Award of Degree in Computer Engineering** Government Council of the University of Burgos Award for the best student qualification record of the Computer Engineering Degree from the University of Burgos, academic year 18/19.	
02/2019	**Prototype Award** OTRI (Information Transfer Office of Burgos University) Project awarded: Use of bio-markers extracted from the voice for the detection of Parkinson. Financial aid and one year of advice for the project.	
2019	**Undergraduate Fellowship for Research Collaboration** Spanish Government Fellowship from Spanish Government to carry out research tasks. Research in the project *Use of biomarkers extracted from the voice for the detection of Parkinson*, which is my BSc thesis, evaluated with honors	

Entrepreneur and communication contests

01/2017	**3rd place in Spin-Up CyL Contest**	Spin Up - Junior Achievement

3rd place obtained at Innovation Contest SpinUp CyL, realized by Junior Achievement Fundation Spain. Project:

http://www.diariodevalladolid.es/noticias/innovadores/poli-detecta-drogas-volante_81864.html

03/2017	**Participation final stage II Premios Semilla Empresarial**	Premios Semilla CyL

Participation in final stage of II Premios Semilla Empresarial Castilla y León (Valladolid). Project:

http://www.diariodevalladolid.es/noticias/innovadores/boligrafo-digital-pasa-limpio-apuntes_90273.html

2017	**Participation courses at Burgos University**	University of Burgos

· "Creativity for entrepreneurs" (02/21/2017)
· "Learn to undertake: Crowfunding" (03/14/2017)
· "Communication in public" (03/27/2017)

Motivation and me at a glance

Graduated (07/2019) in Computer Science and recently (01/2021) got my Master's in Data Science. Strong motivation to pursue a PhD.

- Bsc Thesis made with a collaboration scholarship oriented to a research project in the Civil Engineering department of the University of Burgos. The project is about the **Use of bio-markers extracted from the voice for the detection of neurodegenerative diseases**, a topic related to natural language processing (NLP), signal processing and ML Classification. The project includes concepts of **data mining, machine learning and transfer learning** for the realization of the predictive model of Parkinson's disease. Project in continuous development. A near future objective will be that the results of the research are reflected in a **paper**

  Winning project of a **Prototype Award** from OTRI.

- I have just finished my Master's in Data Sicence with Honors. **Master's Thesis** has been made at University Oberta of Catalunya in collaboration wit Dr. Baris Kanber from University Colleague of London. We have developed a Denoiser Deep Convolutional Autoencoder for T1 weighted brain MRI. At this moment, we want to publish, as a review paper, the wide state of the art review that I made in the thesis.

15th February, 2021

Adrián Arnaiz Rodríguez