

# ALFONSO RUA MARTINEZ

alfonsoruaamartinez@gmail.com    LinkedIn    +34 681047074    github.com/alfonsorua    alfonsorua.com

## EDUCATION

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### Universidad Internacional de Valencia

*Master of Artificial Intelligence*

Spring 2022 - Spring 2023

### Universidad de Vigo

*Bachelor of Computer Science, specialized in Software Engineering*

Fall 2018 - Summer 2021

## WORK EXPERIENCE

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### DXC Technology

*Sr Analyst Data Engineering*

Santiago de Compostela, Galicia, Spain

November 2021 - Present

- Developed and implemented a cloud-based data storage solution for Inditex, using Azure and Snowflake.
- Implemented an efficient data migration strategy to move old pipelines from Hadoop to Spark.
- Collaborated with cross-functional teams to configure the ingest of their own parquet/csv files directly from Datalake.
- Managed data quality checks and automated monitoring to ensure the accuracy of processed data.

### Coremain

*Software Engineer*

Santiago de Compostela, Galicia, Spain

February 2021 - May 2021

- Full stack developer during a 4 month university internship, following Scrum methodology.
- Developed web application GaIA using Java Spring, Hibernate, Maven and also Javascript/HTML/CSS.
- Collaborated with the environment department to gather requirements, resulting in a UI that increased user satisfaction.

## MAJOR PROJECTS

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### E3B on Minigrid

*An adaptation of the Meta algorithm E3B about exploration in reinforcement learning, on Minigrid environment.*

February – April 2023

- Studied and adapted E3B algorithm over PPO for Minigrid agent and low computational capacity systems.
- Used techniques such as Autoencoders (unsupervised) to reduce the problem dimensionality.

### Wise Lemon Selector

*Artificial vision and clustering application to detect quality of lemons from images.*

November 2022

- Developed three robust CNN model systems achieving high precision (over 95%), both from scratch and applying transfer learning + fine tuning on well known nets such as VGG16.
- Used Batch Normalization and Dropout techniques and preprocessing images to prevent overfitting.

### Named Entity Recognition for Leet speak

*A pipeline to detect "leet speak" words from a text without using heavy model implementation, written in Java.*

March – June 2021

- Built for the NLPA project (SING-GROUP), it searches through all the possible permutations of "leet" words.
- Implemented on a web interface with Java Spring Boot to encrypt and decrypt "leet" text easily.

### Rural houses web + owner solution

*Website to see and book rural houses with integrated payments, also the program to manage reservations.*

May 2023 – Present

- Building the front with Vite(React) and backend on Python and MariaDB.
- Developing a program for the owner that has guest management and price recommendations based on many parameters.

## SKILLS

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### PROGRAMMING LANGUAGES

6 years:    Java, Python, SQL, Bash  
2 years:    Scala, C/C++, C#, Javascript, Matlab  
1 year:    LISP, PHP, VHDL, Rust, R, Q#

### TECHNOLOGIES

Tensorflow, Pytorch, Pandas, Scikit-learn, Qiskit, Matplotlib, Spark, Snowflake, Azure, Amazon Web Services (AWS), Docker, Jupyter, Apache Parquet, Git, MongoDB, Hadoop, JIRA, Oracle DB, Jenkins, Redmine, Enterprise Architect, Visual Paradigm, APIs, SVN, Node

### Knowledge

Data Science, Reinforcement Learning, Deep Learning, Supervised & Unsupervised Learning, Fuzzy Logic, Big Data, Data Mining, Agile methodology (Scrum), Embedded software, Ethical Hacking, Mathematics, Physics, Quantum Computing, Software Engineering.  
English (CAE), Spanish & Galician

### ONLINE COURSES

Convex Optimization I & II (Stanford, 2023), Introduction to Reinforcement Learning with David Silver (GoogleDeepMind 2023), Quantum Computing (Universidad Internacional de Valencia 2023), Mining Massive Data Sets (Stanford 2023), High-Dimensional Data Analysis (Harvard 2022), Introd. to Computational Thinking and Data Science (MIT 2016), Mathematics of Machine Learning (MIT 2015)