

Rubén González Barriada

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Profile

Software engineer with extensive experience in the full product lifecycle, specialized in solving complex problems and fostering multidisciplinary learning. With a team-oriented mindset and a focus on continuous improvement, I excel in adaptability and critical thinking. Passionate about artificial intelligence, I am currently researching predictive models using medical imaging for the detection of cardiovascular diseases. I am seeking to leverage my expertise in developing innovative solutions as a Data Scientist or Machine Learning Engineer.

Tech Skills: Programming (Python, C/C++, Matlab, scripting). Machine Learning (scikit-learn, PyTorch). Data Analysis & Visualization: (pandas, numpy, openCV, scipy, matplotlib, seaborn). Management (Scrum, Asana). Database (MySQL). Tools & Frameworks (Postman, REST, FastAPI, Docker). Version Control (Git, GitHub, Gitflow, SVN, TFS). Other (Linux, Jupyter)

Education

Open University of Catalonia

Barcelona, Spain (Remote)

PhD candidate in Bioinformatics

2025 (expected)

- Thesis: Deep-learning-based Methods for Cardiovascular Risk Assessment.
- DL/ML methodologies with retinal images for disease prediction facilitating the clinical diagnosis-making.
- CNN (U-Net, ResNet, VGG, multimodal). ML (LogisticReg, KNN, SVM, Random Forest).

University of Southern Denmark

Odense, Denmark

M.Sc. in Robot Systems Engineering

2011

- Thesis: Three-Dimensional Reconstruction of Indoor Environments for Visual Navigation.
- Artificial intelligence: Machine learning, neural networks, evolutionary algorithms, adaptive robotics.
- Computer vision: Projective geometry, image processing, object recognition, Kalman filtering.

Technical University of Madrid

Madrid, Spain

B.Eng. in Software Systems Engineering

2009

- Thesis: Improvement of a Video-Oculography System.

Study abroad in Hochschule Ulm, Germany.

Jan 2009 – Jul 2009

Experience

SimpleCloud

León, Spain (Remote)

Senior Software Engineer

Feb 2021 – May 2024

- Cloud-based workspace that provides virtual graphic and computing solutions in the cloud.
- Development of functionalities for Linux/Windows environments for user software/hardware configurations during virtual desktop (VDI) initialization.

Ecosat Airships

León, Spain

Senior Software Engineer

Mar 2020 - Jan 2021

- Semi-rigid airship powered by solar energy able to operate at high altitude.
- Requirements specification and architectures definition of ground station and FCS.
- Team lead and supplier management.

Airbus Defence and Space (on behalf of Altran)

Getafe, Spain

Software Engineer

Jun 2016 – Feb 2020

- Mission Planning products development for C295 aircraft covering main MPS functionalities.
- Software development, documentation, requirements specification, V&V. Coverage in deployed systems.

Airbus Operations (on behalf of Altran)

Madrid, Spain

Software Engineer

Jun 2012 – Jun 2016

- Software development of advanced post-processing tools in computing dynamic fluids.
- Scientific software and optimization: Pipeline architectures based on custom operators.

Indra Systems (on behalf of Altran)

Torrejón de Ardoz, Spain

Software Engineer

Ago 2011 – Jun 2012

- Software development system for air traffic control providing radio and telephony services.
- Software support of implanted communication systems
- Integration tasks between new functional elements and old ones.

Technical University of Madrid (UPM)

Madrid, Spain

Research Assistant

Sep 2010 – Jun 2011

- Fuzzy logic optimization by evolutionary computation methodologies.
- People detection and tracking for elder and handicapped people monitoring.

Complementary Education**Deeplearning.ai**

Online

AI for Medicine Specialization (120h)

Aug 2024

Model evaluation, model tuning, prognostic models, time-to-event modeling, natural language entity extraction, treatment effect estimation, ML interpretation.

Deeplearning.ai

Online

Mathematics for Machine Learning and Data Science Specialization (150h)

July 2024

Linear algebra, calculus, probability and statistics for ML and DS.

Gradients, linear transformations, Newton's method, data analysis, probability and random variables, distributions, Bayesian statistics, confidence interval and hypothesis testing.

Coursera

Stanford University, Online

Deep Learning Specialization (100h)

Apr 2018

Neural Networks and Deep Learning, Convolutional Neural Networks, Hyperparameter tuning, Regularization and Optimization, Structuring Machine Learning Projects, Sequence Models.

Coursera

Stanford University, Online

Machine Learning (100h)

Oct 2011

Supervised learning (SVM, kernels, NN). Unsupervised learning (clustering, DL, dimensionality reduction).

University of Southern Denmark

Odense, Denmark

Design and development of Field Robotics Vehicles for Plant Nursing (260h)

Jun 2011

Design and development of field robots for sustainable biological production.

Katholieke Universiteit Leuven

Leuven, Belgium

Scientific Programming in C++(35h)

Mar 2008

Study the possibilities of the programming language C++ for the development of mathematical software.

Publications**Diagnostics, Artificial Intelligence in Eye Disease**

Jan 2023

An Overview of Deep-Learning-Based Methods for Cardiovascular Risk Assessment with Retinal Images

DOI: <https://doi.org/10.3390/diagnostics13010068>

Applied Sciences, Deep Neural Networks in Medical Imaging

Jan 2022

Deep Learning of Retinal Imaging: A Useful Tool for Coronary Artery Calcium Score Prediction in Diabetic Patients

DOI: <https://doi.org/10.3390/app12031401>