Rubén González Barriada

León, Spain • ruben.gbarriada@gmail.com • +34 686 114668 • in/ruben-gonzalez-barriada • ⌂/rgbarriadaphd

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.

Katholike 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