

Rodrigo González Linares

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EDUCATION

MSc Artificial Intelligence

University of Vigo, Spain | 2022 – 2024

MSc Nanobiology

Delft University of Technology & Erasmus University Rotterdam, Netherlands | 2018 – 2020

BSc Biotechnology Engineering

Monterrey Institute of Technology and Higher Education, Mexico | 2015 – 2018

RELEVANT SKILLS

Programming languages: Python, Julia, Wolfram (Mathematica), MATLAB, SQL, Bash, Zsh

Frameworks and libraries: PyTorch, Keras/Tensorflow, Scikit-learn, OpenCV, HuggingFace (Transformers/Diffusers), NumPy, Flux (ML for Julia), River (online ML), Flower (federated ML), Pandas, Matplotlib, PySpark, PEFT, Ollama, FAISS

Software: Git, Jupyter Notebook, Pentaho (ETL), Unity, Docker, Hadoop, ImageJ, PyMOL, Geneious, Tableau

Languages: English (fully proficient, TOEFL IBT 102/120 in 2017), Spanish (native)

EXPERIENCE

Machine learning & computer vision intern

CRIDA A.I.E., Spain | Sep 2023 – Feb 2024

- Developed a monitoring system capable of detection and monocular 3D positioning of objects.
- Created a virtual environment in Unity, generating hundreds of synthetic data samples for model training.
- Improved depth estimation MAE for flying objects by 15% through fine-tuning a Vision Transformer (ViT) model.

Researcher

School of Biological Sciences, University of Southampton, UK | Sep 2020 – Sep 2021

- Analyzed genomic data to identify novel CRISPR systems, applying bioinformatics tools and techniques to extract insights from large datasets.
- Optimized a CRISPR-based diagnostic method for the detection of nucleic acids.

Master end project researcher

Kavli Institute of Nanoscience, Delft University of Technology, Netherlands | Sep 2019 – Jul 2020

- Investigated a CRISPR-associated transposon regarding genome engineering.
- Analyzed DNA sequencing data, which provided critical insights that supported the main research hypothesis.

Research intern

Kavli Institute of Nanoscience, Delft University of Technology, Netherlands | Feb – Jun 2019

- Investigated molecular dynamics using FRET and TIRF microscopy, generating gigabytes of raw data.
- Processed and analyzed microscopy data using MATLAB.

OPEN-SOURCE PROJECT

RAGamuffin

<https://github.com/RGonzLin/RAGamuffin>

Minimalistic Retrieval-Augmented Generation (RAG) implementation built on top of Ollama.

PUBLICATION

Spoelstra, W., Jacques, J., **Gonzalez-Linares, R.**, Nobrega, F., Haagsma, A., Dogterom, M., Meijer, D., Idema, T., Brouns, S. and Reese, L., 2021. CRISPR-based DNA and RNA detection with liquid-liquid phase separation. *Biophysical Journal*, 120(7), pp.1198-1209.