

# Rodrigo González Linares

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## EDUCATION

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### MSc Artificial Intelligence

University of Vigo, Spain | 2022 – ongoing (expected – Feb 2024)

### MSc Nanobiology

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

### BSc Biotechnology Engineering – graduated with honors as top graduate

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

## RELEVANT SKILLS

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**Programming languages:** Python, Julia, Wolfram (Mathematica), MATLAB

**Frameworks and libraries:** PyTorch, Keras/Tensorflow, Scikit-learn, OpenCV, Hugging Face (Transformers/Diffusers), NumPy, Flux (ML for Julia), River (online ML), Flower (federated ML), Pandas, Matplotlib, PySpark, SentenceTransformers, Faiss, Haystack, PEFT

**Software:** Docker, ImageJ, PyMOL, Geneious, SnapGene, GenomeCompiler, Tableau, GraphPad

**Laboratory:** CRISPR, TIRF microscopy and smFRET, genetic engineering, molecular biology, microbiology

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

## EXPERIENCE

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### Internship

CRIDA A.I.E., Spain | Sep 2023 – ongoing

- Creation of a virtual vertiport environment in Unity
- Development of a surveillance system capable of incorporating different versions of YOLO for detection/classification/segmentation, k-means and SAM for segmentation, and MiDaS for monocular depth estimation
- Increase of depth estimation precision for flying objects via MiDaS fine-tuning

### Research project

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

- Design and development of a novel nucleic acid amplification method based on rolling circle replication
- *In silico* search and characterization of CRISPR-associated transposons
- Participation in the development of a CRISPR-based diagnostic method for the detection of nucleic acids with a naked-eye readout

### Master end project

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

- Investigation on a CRISPR-associated transposon regarding genome engineering

### Research internship

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

- Investigation on the dynamics of Cas13 using single-molecule FRET and TIRF microscopy

## PUBLICATION

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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.