HUGO ARMANDO GUILLEN RAMIREZ
PHD IN COMPUTER SCIENCE

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OBJECTIVE

As a PhD in Computer Science with expertise in Data Science, Machine Learning, Algorithmic Design, Software Development, and Bioinformatics, I aim to leverage my nine years of post-MSc research experience to secure a role as a Data Scientist, RWD Data Scientist, RWE Data Scientist, or Research Scientist focused on Data Science. My proficiency in developing models and pipelines for clinical patient data, including laboratory values and vitals, will be an asset for driving excellence in these roles within the industry.

DEVELOPER EXPERIENCE

2023 – present: University of Bern, Switzerland.
- I am developing models trained on Real-World Data (RWD) and Real-World Evidence (RWE) for predicting clinical outcomes using human clinical data from the University Hospital.

2021 – 2023: University College Dublin, Ireland.
- Developed Python scripts for Data Analysis performed in High Performance Computing (HPC) facilities.

2019 – 2021: University of Bern, Switzerland.
- Developed Python scripts for feature engineering, automatic machine learning, network visualization, statistical testing on genomic regions.
- Researched and implemented pipelines for designing and processing CRISPR deletion libraries in bash, awk, Python and R in HPC facilities.

2014 – 2018: CICESE Research Center, Mexico.
- Developed and implemented machine learning techniques, meta-heuristics, and visualisation tools for classification problems involving genomic sequences and RNA secondary structures in Python and Weka.
- Led a team to conduct research in machine learning, publishing our results on the International Joint Conference on Neural Networks 2017.

2011: MXGlobal Solutions, Nayarit, Mexico.
- Developed C# and SQL software for a logistics transnational.

RESEARCH EXPERIENCE

2021 – 2023: MSCA Postdoctoral Fellow. Project: "Computational genomics of long noncoding RNA domains across metazoans."

2019 – 2021: Postdoctoral Researcher. Project: "Identification and functional prediction of lncRNA elements." I applied Data Science and Machine Learning to gain insights into the function of biological molecules.

2014 – 2018: PhD Student. Project: "Methods for non-coding RNA gene prediction."

2011 – 2014: MSc Student. Project: "Design of a Tissue P-System and a molecular algorithm to solve the MAX-CLIQUE problem."

FELLOWSHIPS, GRANTS & AWARDS

2021 – 2023: Marie Skłodowska-Curie Individual Fellowship, European Commission (€196,590.72) (Ireland)

2011 – 2018: CONACYT National Scholarship for master and doctoral studies (Mexico).

EDUCATION

2018 **PhD in Computer Science**
Specialization: Machine Learning applied to biological datasets
CICESE Research Center, Mexico

2014 **MSc in Computer Science**
Specialization: Theoretical models of computation
CICESE Research Center, Mexico

2011 **Bachelor's in Computer Systems Engineering**
Specialization: Distributed applications and systems
Instituto Tecnológico de Tepic, Mexico

KEY SKILLS

Programming languages: Python, Jupyter, R, awk, bash scripting, SQL, C#, Java, JavaScript, MATLAB, Latex; git; GitHub
Databases: SQLite, PostgreSQL, MySQL/MariaDB.
Containers: Singularity containers, Docker, conda and mamba environments.
ML and DS: Prediction, Classification, Feature Engineering, Signal Processing, Microsoft Excel, Weka, scikit-learn, pandas, R packages, High Performance Computing
Graph theory: NetworkX, Neo4j, Gephi, Graphviz
Bioinformatics: Expertise in computational biology, genomics

LANGUAGES

Spanish: native
English: proficient

ADDITIONAL EXPERIENCE

QQI Award Level 6 in **Project Management**, QQI, Ireland.

Teaching and mentoring at undergraduate and masters' level.

Six **publications** in peer-reviewed journals, including work on data science, computational biology, and bioinformatics.

Passionate about applying my data science expertise to drive innovation and excellence in the pharmaceutical industry.