HUGO ARMANDO GUILLEN RAMIREZ

PHD IN COMPUTER SCIENCE

P (+41) 767587772 E hugoagr@gmail.com A Bern, Switzerland W hugoguillen.github.io

OBJECTIVE

I am a PhD in Computer Science expert in Data Science, Machine Learning, Algorithmic Design, Software Development, and Bioinformatics. I have nine years of research experience post-MSc, where I have implemented Data Science and Machine Learning pipelines published in peer-reviewed journals and conferences.

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.

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.

2010 – 2011: Instituto Tecnológico de Tepic, Nayarit, México.

- Developed a web system in Java/JSP.

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**
Machine Learning applied to biological datasets
CICESE Research Center, Mexico

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

2011 **Bachelor’s in Computer Systems Engineering**
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

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.