

Daniel Rivas

PHYSICIAN · DATA SCIENTIST · SOFTWARE DEVELOPER · SCIENTIFIC INNOVATOR · ENTREPRENEUR

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Summary

Graduated **Medical Doctor** from one of the most prestigious universities in Mexico

Graduated from three different rigorous academic programs in Northern Europe with domain expertise on **Bioimaging & Microscopy, Infectious Diseases, Genomic Sciences & Artificial Intelligence**

Proficient **Data Scientist & Software Developer** with more than a decade of experience and proven track record in different fields, and diverse programming paradigms (**Rust, Go, Julia, R, Python, SQL**)

Recipient of the **Matariki fellowship** on 2020 hosted at the University of Western Australia

Aiming to apply my expertise in data science & machine learning to help a dynamic company drive innovation and achieve its growth objectives

Open to relocation

Current Appointments

Astra Zeneca

SENIOR DATA ANALYST

Guadalajara, Mexico

2024 - Current

- Extract and analyze large amounts of sales data
- Develop automation & visualization tools
- Interact with cloud computing systems for data analysis, e.g., AWS & Databricks

Achievements

Developed an innovative large-data analysis pipeline for the identification of genomic structural variants, specifically endogenous retroviruses, published as an open-access article in the prestigious journal *PNAS*, with important implications for evolutionary biology and medical genetics

Coordinated medical data collection and designed a machine learning software to detect anomalous biosignals to aid physicians with semiautomatic interpretation and greatly facilitate diagnosis

Secured the renowned *Matariki Global Citizen Fellowship* with an ingenious project to identify genomic foreign insertions in the largest dataset of genome assemblies available to this day

Refactor an algorithm to predict sport performance based on historical records that performs four orders of magnitude faster than previous iterations and can make real-time predictions

Performed statistical analysis to predict success or failure on industrial pipelines, saving substantial revenue in order of hundreds of thousands of euros

Implemented a highly-efficient unsupervised machine learning algorithm for detecting signatures of selection in genome populations of commercially important food crops

Organized, coordinated and lectured courses on different programs (Language, Medical Microbiology, Comparative Genomics, Knowledge-based Systems in Bioinformatics) and levels (Independent, Bachelor, Master, Doctorate, Clinical)

Skills

Applied Machine Learning
Data Analysis
Scientific Computing
Data Visualization
Software Development

Professional Experience

National (Mexico) Institute for Genomic Medicine

Mexico city, Mexico

DATA SCIENTIST

2023 - 2024

- Designed, curated and performed data analysis on different clinical datasets using state-of-the-art software and analysis techniques
- Developed and instructed a clinical course for data and statistical analysis aimed for clinicians

European Research Council H2020. Uppsala University

Uppsala, Sweden

RESEARCHER - ARTIFICIAL INTELLIGENCE FOR LIFE SCIENCES

2022 - 2023

- Participated and coordinated different multidisciplinary collaborative projects in various fields of basic and clinical medicine
- Assisted with domain-specific and technical expertise building machine learning architectures, and performed data analyses
- Supervised numerous students on projects, such as, identification of candidate genes and functional motifs in cancer research, prediction of anomalous events from electrocardiographic and electroencephalographic recordings, deployment of semiautomatic econosographic diagnosis, identification of gene expression patterns in vaccine *in vivo* models

University Guadalajara LAMAR & University Mexico's Valley

Guadalajara, Mexico

DOCENT MEDICAL MICROBIOLOGY AND PARASITOLOGY

2012 - 2014

- Coordinated academic meetings and workshops
- Planned *Curricula*
- Elaborated performance evaluations

Education

Doctor in Philosophy - Computational Medicine & Artificial Intelligence

UPPSALA UNIVERSITY - UPPSALA, SWEDEN

- **Thesis:** *The revolutionary partnership of computation and biology.*
- Secured the **Matariki Global Citizens Fellowship**
- Graduated from the **National (Sweden) School of Medical Bioinformatics**
- Attended the **Swedish Bioinformatics Advisory Program** by the Science for Life Laboratory

Master in Sciences - Infection Biology

UPPSALA UNIVERSITY - UPPSALA, SWEDEN

- **Thesis:** *Looking into the rabbit hole: a study of evolutionary associations among retroviruses and hosts using rabbit as a model.*
- Obtained the **Scholarship for Graduate Studies Abroad** by National (Mexico) Council for Science and Technology
- Graduated with Honors

Master in Sciences - Biomedical Imaging

UNIVERSITY OF TURKU - TURKU, FINLAND

- **Thesis:** *Through the looking-glass: microscopy techniques for studying mitochondria.*
- Obtained the **Personal Research Grant** by the Turku University Foundation
- Obtained the **Tukisetelinsaajat (Internship Voucher)**
- Won the **2015 MultiMedia Contest** with *Beyond the Limits*

Medical Degree - Physician, Surgeon and Obstetrician

UNIVERSITY OF GUADALAJARA - GUADALAJARA, MEXICO

- Graduated by Scientific Production and Academic Excellency
- Obtained the **Scholarship of Economic Support for Outstanding Students in Research**
- Clinical Practice Internship
- Laboratory Instructor

Publications

- **S.D. Rivas-Carrillo**, E.E. Akkuratov, H. Valdez Ruvalcaba, A. Vargas-Sanchez, J. Komorowski, D. San-Juan, M.G. Grabherr. *MindReader: Unsupervised Classification of Electroencephalographic Data*. **Sensors** **2023**; 23, 2971.
 - **S.D. Rivas-Carrillo**, M.E. Pettersson, C-J. Rubin, P. Jern. *Whole-genome comparison of endogenous retrovirus segregation across wild and domestic host species populations*. **Proceedings of National Academy of Science** **2018**; 115 (43) 11012.
 - Azpeitia-Hernandez Y, **Rivas-Carrillo D**. *Endocarditis Infeciosa*. *Revista Alpha Ciencias de la Salud* 2014; 1(1):29-39.
 - **Salvador Daniel Rivas-Carrillo**, Jorge David Rivas-Carrillo. *Bacteriología Medica*. **Cuellar-Ayala Editorial**. **First edition. 2012**.
 - **S.D. Rivas-Carrillo**, J. Kanamune, Y. Iwanaga, S. Uemoto, A. Daneri-Navarro, J.D. Rivas-Carrillo. *Endothelial Cells Promote Pancreatic Stem Cell Activation During Islet Regeneration in Mice*. **Transplantation Proceedings** **2011**, 43, 3209-3211.
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