VALERIA ROLLE

Biostatistician

CONTACT

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EDUCATION

2018 — **Master's degree in Biostatistics**
Universidad Complutense de Madrid

2017 — **Degree in Biology**
Universidad de Oviedo

SKILLS

- Expertise in statistical analysis, including survival analysis, regression, and Bayesian methods, as well as scientific writing for reporting methodology and results.

- Proficient in statistical software packages, including R (expert level), Stata (professional competence), and Python (beginner level), as well as other software (Office suite, Windows, Linux, and currently learning JavaScript)

- Strong skills in data preprocessing, cleaning, transformation, and pipeline creation

- Excellent written and verbal communication skills, with a strong attention to detail and a commitment to data quality and accuracy

- Highly organized and capable of managing complex projects and tasks effectively

WORK EXPERIENCE

Research assistant & Biostatistician

February 2021 - April 2023 at Hospital Universitario de Torrejón (Remote)

- Designed and managed data for a study aimed at implementing a national screening program for obstetrics.
- Created a pipeline to automatically clean, preprocess, and audit biomarker measurements, improving data quality and accuracy for several national and international research projects.
- Wrote methodology sections for grants and methodology and results sections for research manuscripts.

Biostatistician

May 2018 - March 2023 at Foundation for Biomedical Research and Innovation in Asturias

- Collaborated with clinical and translational researchers in oncology, psyquiatry and other specialties, including research on Parkinson's disease, Alzheimer's disease, and frontotemporal dementia, to provide statistical expertise in the design, planning, modeling, analysis, and reporting of clinical trials and other research studies.
- Utilized skills in survival analysis, regression (mixed and multilevel models), joint models, and Bayesian methods to support successful completion of numerous projects.
- Applied efficient study designs, ensured studies were appropriately powered to reliably answer the study question, advised on data collection, developed novel statistical methodology, and performed analysis using valid analytical methods.
- Developed an R package to streamline daily job functions and automate reporting.
- Worked independently on multiple projects simultaneously.

Visiting researcher

September 2021 - December 2021 at University of Oulu (Finland)

- Collaborated with a team of researchers to develop and optimize a neural network model for analyzing extracellular matrix data in cancer research.
- Conducted thorough data analysis using lasso and elastic net regression to identify key variables and features for the neural network model.

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PUBLICATIONS

2023
- Performance of first-trimester combined screening of preterm pre-eclampsia: results from cohort of 10 110 pregnancies in Spain. *Ultrasound in Obstetrics & Gynecology.*
- Incidence of stillbirth: effect of deprivation. *Ultrasound in Obstetrics & Gynecology.*
- Models based on PlGF in combination with maternal factors +/- other biomarkers achieved the highest DOR for the prediction of early preeclampsia compared to PlGF alone or sFlt-1/PlGF ratio. *American Journal of Obstetrics and Gynecology.*
- Intrapartum ultrasound in maternal lateral versus semi-recumbent posture. A repeated measures study. *European Journal of Obstetrics & Gynecology and Reproductive Biology.*

2022
- Association of the genetic variation in the long non-noding RNA FENDRR with the risk of developing hypertrophic cardiomyopathy. *Life.*
- IL6 gene polymorphism association with calcific aortic valve stenosis and influence on serum levels of interleukin-6. *Frontiers in Cardiovascular Medicine.*
- SARS-CoV-2-specific antibodies and neutralization capacity in breast milk following infection vs vaccination. *Ultrasound in Obstetrics and Gynecology.*
- Performance of screening strategies for latent tuberculosis infection in patients with inflammatory bowel disease: Results from the ENEIDA registry of GETECCU. *Journal of Clinical Medicine.*
- Analysis of extracellular matrix network dynamics in cancer using the MatriNet database. *Matrix Biology.*
- Maternal Race and Stillbirth: Cohort Study and Systematic Review with Meta-Analysis. *Journal of Clinical Medicine.*

2021
- A comprehensive formula for computing corrected QT intervals in patients with wide QRS. *Journal of Electrocardiology.*
- Risk factors for preeclampsia: Results from a cohort of over 5000 pregnancies in Spain. *Maternal-Fetal Medicine.*

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TEACHING EXPERIENCE

R programming for researchers and physicians

Five editions 2018-2023 - Foundation for Biomedical Research and Innovation in Asturias & R Users Group Asturias

This course was designed to help researchers and physicians become comfortable using R for data analysis. By the end of the program, participants had gained the skills needed to work with data from a variety of sources, including external files (from programs like SPSS and Stata, and also from csv, tsv, etc.) as well as data from websites. They also learned how to clean and transform data using functions from both base R and the tidyverse package, which enabled them to manipulate their data into a format suitable for analysis. In addition, they gained proficiency in basic statistical analyses, such as linear regression, and were able to create clear visualizations of their results using ggplot2. Finally, participants learned how to use R Markdown to create reproducible reports that can be easily shared with others.

Biomedical data

2021 - Faculty of Biochemistry and Molecular Medicine of the University of Oulu, Finland

I contributed to the planning of a regular course offered by the faculty at the University of Oulu. The course was designed to teach students how to work with different types of biomedical data, such as RNAseq, scRNA-seq, and ChIPseq, and process them using appropriate pipelines on both local machines and cloud services. Through this course, students gained valuable skills in data processing and analysis that will prepare them for future work in the field.

CONFERENCE PRESENTATIONS

ESNUPI study - Nutritional indicators in children aged 0-14

2023 - Spanish Association of Primary Care Pediatrics | Aurrecoechea, B; Alonso Lorenzo, J; **Rolle, V**; Ordoñez Alonso, MA; Pérez Candás, JI; López Covián, I.

Surgical statistics

2022 - Spanish Society for Surgical Research | Rolle, V.

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COURSES

Introduction to data wrangling and analysis in JavaScript
2023 - 4h - Imparted: Allison Horst | Organized: observablehq.com

Advanced Epidemiology: New Epidemiological Designs
2022 - 60h - Organized: Andalusian School of Public Health

Hierarchical Bayesian models with R and WinBugs
2022 - 21h - Imparted: Miguel A. Martinez-Beneito

Regression methods in health sciences
2021 - 21h - Imparted: Luis Carlos Silva Ayçaguer

Introduction to GIS
2020 - 17.5h - Imparted: Jingjing Li | Organized: Drexel University

Multilevel regression models with Stata
2020 - 12h - Imparted: Víctor Abraira Santos

Bayesian survival analysis for clinical research with R
2019 - 20h - Imparted: Carmen Armero Cervera, Elena Lázaro Hervás and Virgilio Gómez Rubio

Survival analysis with Stata
2019 - 28h - Imparted: Víctor Abraira Santos

Bayesian inference: beyond the basics with R
2019 - 28h - Imparted: David Prieto Merino

LANGUAGES

Spanish
Native

English
Professional competence - IELTS (2018)

French
Beginner

SOFTWARE

R
Expert

Stata
Professional competence

Excel
Professional competence

Python
Beginner

JavaScript
Beginner

Adobe photoshop
User level