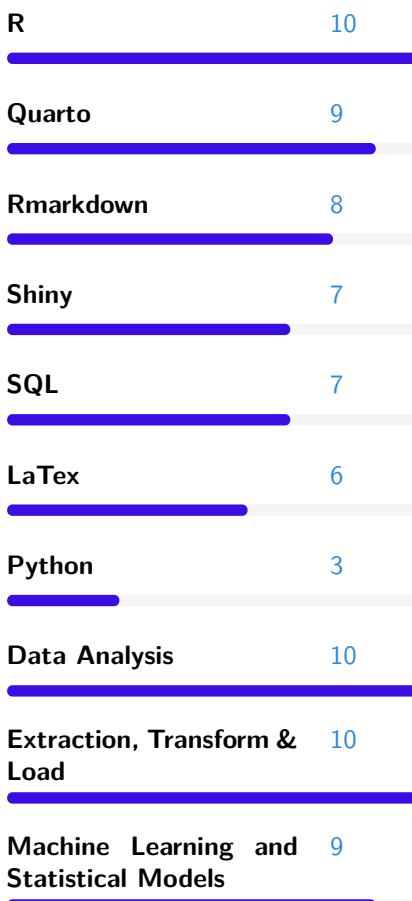# Francisco Sánchez

Data Scientist & Biostatistician

Contact

- Valencia, Spain
- fcosanchezsaez@gmail.com
- Rookdatascientist.com
- Frasansa
- Frasansa

Skills

R   10

Quarto   9

Rmarkdown   8

Shiny   7

SQL   7

LaTex   6

Python   3

Data Analysis   10

Extraction, Transform & Load   10

Machine Learning and Statistical Models   9

Summary

Data scientist and biostatistician with experience in pharmacoepidemiology. I have a strong background in statistics and data analysis, and I am proficient in R, SQL, and Quarto. I have experience in the development of prediction models and the application of the causality framework in pharmacoepidemiology. I am also experienced in the extraction, transformation, and loading of data from different sources (e.g. conversion of EHR databases into OMOP CDM). I have experience in working in international projects and with multidisciplinary teams. I am passionate about open science and reproducible research, and I am an active member of the R community.

Experience

Biostatistics and Health Informatics Manager
07/2020 - Present

Health Services Research Unit, FISABIO

- Design, conduct, and report on observational pharmacoepidemiological studies.
- Writing of study protocols, statistical analysis plans, and statistical analysis reports.
- Data wrangling and ETL processes across various Common Data Models (CDM) in pharmacoepidemiology.
- Development of predictive models and application of causal frameworks to EHR data analysis.
- Professor of Applied Statistics in Epidemiology and Public Health for an MSc programme for resident doctors.

University Professor
01/2020 - Present

Engineering and Technology School, Universidad Internacional de la Rioja (UNIR)

- Teaching the Internet of Things (IoT) subject within the Master of Industry 4.0 programme and supervising MSc theses within the same program.
- Author of the materials for a Multivariate Analysis course within the Master of Mathematical and Computational Engineering

Statistical consultor
08/2019 - 08/2020

University of Mississippi Medical Center

I Conducted comprehensive machine learning data analysis, including descriptive analysis of datasets, treatment of missing data using various techniques, and regression modeling (elastic net, tree-based methods like random forest or gradient boosting algorithm, etc.) to model interactions among predictor variables.

Post Doctoral Researcher
01/2018 - 11/2019

Department of Chemical and Nuclear Engineering. Polytechnic University of Valencia

I Devised statistical and probabilistic methodologies using thermal-hydraulic simulators and R programming to analyze accidents in nuclear power plants.

Ph.D. Candidate
02/2013 - 07/2017

Department of Chemical and Nuclear Engineering. Polytechnic University of Valencia

I Developed methodologies for analyzing accidents in nuclear power plants by leveraging thermal-hydraulic simulators in conjunction with R programming.

Tools

- RStudio
- Git
- PostgreSQL
- Terminal

Education

10/2017 - 07/2019

MSc. Biostatistics

Unversity of Valencia

Thesis: "Metabolomic influence on incidence of cardiovascular disease. Application of the Elastic Net in the Cox regression models."

02/2013 - 07/2017

Ph.D. Industrial Engineering and Production

Polytechnic University of Valencia

Thesis: "Deterministic safety analysis of nuclear power plants using Best Estimate methodology."

10/2010 - 10/2011

MSc. Industrial Safety

Polytechnic University of Valencia

Thesis: "Study of the Counterpart ROSA/PKL test using TRACE."

09/2003 - 09/2010

Industrial Engineering

Polytechnic University of Valencia

Thesis: "Thermohydraulic analysis of PWR spent fuel pools."

Languages

- Spanish: Native
- English: B2
- Catalan: C1

Projects

See my github profile, `https://github.com/frasansa`, for a comprehensive list of open source projects.

R Packages
Creator and mantainer

tidyadhere: A package for calculating and working with drug exposures in pharmacoepidemiology, following the tidyverse style.

R Projects
Creator and mantainer

- PREGVAL: Data wrangling and assambled of a cohort of pregnancies in the Valencia Region.
- VID2OMOP: ETL process from the VID database to OMOP CDM.

International Projects
Data provider and research partner

- CONSIGN study: COVID-19 infection and medicines in pregnancy - a multinational registry-based study (EUPAS39438).
- Impact of EU label changes and revised pregnancy prevention programme for oral retinoid containing medicinal products: utilization and prescribing trends (EUPAS31095).

Selected publications

COVID-19 and pregnancy: A European study on pre- and post-infection medication use.
https://doi.org/10.1007/s00228-024-03639-z

Hurley, E., Geisler, B P., Lupattelli, A., Poblador-Plou, B., Lassalle, R., Jové, J., Bernard, M-A., Sakr D., Sanfélix-Gimeno, G., Sanchez-Saez, F., Rodríguez-Bernal, C L., Sabaté, M., Ballarín, E., Aguilera, C., Jordan, S., Thayer, D., Farr, I., Ahmed S., Bartolini C., Limoncella, G., Paoletti, O., Gini, R., Maglanoc, L A., Dudukina, E., Ehrenstein, V., Alsina, E., Vaz, T A., Riera-Arnau, J., Sturkenboom, M., Nordeng, H. (2024). Eur J Clin Pharmacol

Data Resource Profile: Results Analysis Base of Navarre (BARDENA).
https://doi.org/10.1093/ije/dyad144

Gorricho, J., Leache, L., Tamayo, I., Sanchez-Saez, F., Almirantearena, M., San Román, E., Ballaz, J., Turumbay, J. Librero, J. (2023). International Journal Of Epidemiology.

Side effects during the week after the first dose vaccination with four COVID-19 vaccines. Results of the ProVaVac survey study with 13,837 people in Spain.
https://doi.org/10.1016/j.vaccine.2022.08.028

Sanchez-Saez, F., Peiró, S., Cuenca, L., Vanaclocha, H., Limón, R., Salas, D., Burgos, J. S., Sánchez-Payá, J., Meneu, R., Diez, J., Garcia-Sempere, A., Navarro, I. H., Rodriguez-Bernal, C., Sanfélix-Gimeno, G., Navarro, D. (2022). Vaccine, 40(41), 59425949.

Uncertainty analysis of a large break loss of coolant accident in a pressurized water reactor using non-parametric methods.
https://doi.org/10.1016/j.ress.2018.02.005

Sanchez-Saez, F., Sánchez, A. I., Villanueva, J. F., Carlos, S., Martorell, S. (2018). Reliability Engineering and System Safety, 174, 1928.