



SERGIO VALBUENA ÁLVAREZ

Data Scientist, PhD in Neuroscience

Neuroscientist with extensive experience in integrating and analyzing data to drive biomedicine projects. I have developed a strong results-oriented mindset and the use of novel analytical pipelines to solve complex problems. Proficient in data collection, integration, and modeling using Python and R, with a focus in computational biology, statistical methods and machine/deep learning.

CONTACT



📍 Schönaustr. 20, 4058, Basel

✉ svalbuenaa@gmail.com

☎ +41 78 885 1110

SKILLS

Data Science

- Python, R, SQL, Shell scripting
- ETL, data cleaning, wrangling and mining (Numpy, Pandas, Tidyverse)
- Supervised/Unsupervised learning (Scikit-learn)
- Deep learning: RNNs, CNNs, LSTM, GANs, Transformers, hyperparameter optimization (Keras, Tensorflow, Optuna)
- Statistical methods (multivariate analysis, regression)
- Data visualization (matplotlib, seaborn, ggplot)
- Version control (Github)

Computational Biology

- Limma / DESeq2
- CellRanger / CellBender
- Seurat
- End-to-end analysis of bulk and scRNAseq data

Soft Skills

- Communication
- Collaborative spirit
- Complex problem solving
- Strong analytical thinking

LANGUAGES

- English: advanced
- Spanish: native

EXPERIENCE

Oct. 2023 – Jan. 2025 - Computational Biologist, single-cell RNAseq

Instituto de Neurociencias (Alicante, Spain)

- Conducted data quality control and preprocessing using *FastQC* and *CellBender*
- Performed analysis of high-throughput RNA-sequencing data using *Seurat*

Sep. 2023 – Oct. 2024 - Computational Biology Trainee, bulk RNAseq

Friedrich Miescher Institute for Biomed. Research (Novartis/University of Basel)

- Developed a modeling pipeline for time series transcriptomics data using *splines*
- Performed batch correction and statistical validation of data integration

Feb. 2020 – Mar. 2025 - Postdoctoral Research Associate in Neuroscience

Friedrich Miescher Institute for Biomed. Research (Novartis/University of Basel)

- Led an end-to-end scientific project, managing cross-functional collaborations, timelines and deliverables from conception to completion
- Generated and integrated multi-dimensional data to develop testable hypotheses
- Mentored team-members and supervised an MSc thesis
- [🔗 Scientific publications: 4](#); lectures: 2; EMBO Postdoctoral fellow

Oct. 2014 – Jul. 2019 - PhD in Neuroscience

Universidad Miguel Hernández (Alicante, Spain)

- Designed a novel analytical methodology for physiological data
- Collaborated within cross-functional teams to develop innovative research tools
- [🔗 Scientific publications: 5](#); lectures: 4; fellowships: 4

PROJECTS

Deep learning:

- Implemented a *CNN* model for image classification
- Built a *RNN* with *LSTM* cells for time series data prediction
- Created a *Transformer* model for paraphrase detection

Other end-to-end projects:

Gathered 1.3M studies about cancer, used *LLMs* to extract information from unstructured text and integrated the results with epidemiological data

EDUCATION

Oct. 2021 – Jan. 2025 - MSc in Data Science

Oct. 2014 – Jul. 2019 – PhD in Neuroscience

Oct. 2012 – Jun. 2013 - MSc in Neuroscience

Oct. 2007 – Jun. 2012 - BSc in Biology