Santiago López Begines, PhD

Data Analyst | Senior Scientist | Bioinformatics Developer | Scientific Project Manager

CONTACT DETAILS

☎ +34 645692225
✉ santiago.lopez.begines@gmail.com
in linkedin.com/in/santibegines
📍 Seville, Spain

ABOUT ME

Bioinformatics Scientist with over 15 years in **biomedical research** and, for the past 4-5 years, I **transitioned into big data**, data science and **omics data analysis**. Proven proficiency in **Python and R** for curation, validation, and analysis of large scientific datasets (proteomics, clinical, transcriptomic). Skilled in developing **automated pipelines** and reproducible analytical workflows, collaborating across multidisciplinary teams, and communicating technical insights effectively. Experienced in **managing research projects and mentoring researchers**.

KEY SKILLS

Data & Analysis Skills:

- **Programming & Tools**: **Python** (NumPy, Pandas, **scikit-learn**, TensorFlow), **R** (tidyverse, tidymodels, caret, H2O, Seurat), SQL, Git, Prism, Excel.
- **Version control**: **Git**
- **Machine Learning & Data Analysis**: Predictive modeling, data visualization, statistical analysis.
- **Data Science & Bioinformatics**: Multi-omics data integration (proteomics, single-cell transcriptomics, metabolomics), predictive modeling, machine learning, statistical analysis, visualization.
- **Data Integration**: REST APIs, HTTPS, S3, JSON, YAML, TSV
- **Cloud-Based Tools**: Experience with cloud platforms and data storage
- **Visualization Tools**: R Shiny, ggplot2, matplotlib, seaborn
- **Technical Communication**: Scientific reporting, documentation, mentoring and specialist in communication of complex data to general non-technical audiences.

Technical Tools & Wet-lab Skills:

- **Experimental & Neuroscience Techniques**: Transgenic mouse model management, genotyping, surgical procedures (cranial window, AAV injections, subretinal electroporation), tissue dissection, histology, and intracardiac perfusion.

- **Molecular & Cellular Biology**: DNA/RNA analysis, cloning strategies, PCR/RT-PCR, sequencing, protein expression/purification (bacteria, baculovirus), antibody generation, and organelle isolation.
- **Biochemical & Electrophysiology**: Western blot, immunoprecipitation, pull-down, size-exclusion chromatography, metabolic labeling, enzymatic assays; whole-cell patch-clamp paired recordings in mouse brain slices.
- **Microscopy & Imaging**: Confocal and transmission electron microscopy; ImageJ-Fiji custom macros for image quantification.
- **Engineering & Prototyping**: Electronic circuit design and microcontroller programming (Arduino, ESP8266/ESP32), 3D design/printing (Fusion360).

Soft Skills & Delivery:
- Excellent communication in **English** (verbal and written**)**
- **Project & Time Management**: Managing multiple projects in parallel, interdisciplinary team coordination
- Organized, independent, and deadline-driven
- Collaborative and **experienced in multicultural teams**
- **SOP documentation** and internal process optimization
- **Training and mentoring** researchers and analysts

WORK EXPERIENCE

- **Senior Scientist - Data Analyst | University of Luxembourg | 2023 – 2025** Developed and maintained multi-omics data pipelines for biomarker discovery | Conducted literature reviews and database queries to extract relevant biomedical data | Ensured accuracy and consistency in data validation and transformation processes | Applied machine learning models to predict neurodegenerative disease progression | Maintained internal documentation and supported SOP creation | Collaborated with cross-disciplinary teams on international research projects.

- **Senior Scientist | Instituto de Biomedicina de Sevilla (IBiS) | 2017 – 2023**
  Analyzed proteomics and transcriptomics data to uncover molecular mechanisms in disease | Created R/Python scripts for statistical analysis and data visualization | Contributed to internal training sessions and supervised PhD candidates | Managed data integrity in large-scale research projects and optimized workflows | Supported multi-team collaborations across biology and informatics | Electrophysiological recording (patch-clamp) in mouse brain slices.

- **Junior Scientist | University of Barcelona | 2009 – 2017**
  Conducted data analysis for electrophysiology, imaging, and omics experiments | Managed transgenic mouse models and experimental protocols | Designed and optimized wet-lab workflows and statistical reports | Presented research findings at international conferences and published in peer-reviewed journals

HIGHLIGHTS

- Integrated multi-source datasets to support biomarker discovery in neurodegeneration.

- Co-authored 8+ peer-reviewed publications in high-impact biomedical journals (Full list in ORCID: orcid.org/0000-0001-8809-8919)
- Reduced data cleaning time by 50% via automated R scripts in omics data.
- Develop of automated pipeline for analysis of electrophysiological data leads to saving up to 90% of time compared with traditional manual analysis.
- Delivered oral/poster presentations at 10+ international scientific conferences.

EDUCATION

- **MSc in Big Data and Data Science** (2025), UNED, Spain
- **PhD in Biomedicine** (2016), University of Barcelona, Spain
- **MSc in Neurosciences** (2011), University of Barcelona, Spain
- **BSc in Biochemistry** (2009), University of Seville, Spain