Sergio Garcia Busto

About me

I am a computational biologist and biochemist that is passionate about biotechnological innovation. I find applying statistical and machine learning concepts to create solutions in the life sciences extremely motivating. By using my existing knowledge and skills and expanding them wherever possible, I hope to contribute to creating value in this space.

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Additional information

Awards

I have been repeatedly recognised throughout my career, including receiving the Best Poster Award from my PhD cohort and a scholarship to fund my MRes. I also led the team who won the first prize in the Space Omics Hackathon organised by the European Space Agency, after working on modelling the dynamics of immunity in space. We received funding for a publication, which will involve collaborators at NASA. Additionally, I was part of the Dean's List every year and top of my cohort (1/82) for my undergraduate degree at UCL.

Industry experience

I was an Industrial Placement Student in the Biophysics team at Nxera Pharma. I gained significant wet and dry lab experience around Cryo-EM. I improved my teamwork and presentation skills, achieving an Exceptionally High First.

Programming skills

- R (advanced)
- Python (advanced)
- C++ (beginner)

Languages

- Spanish: native speaker
- English: proficiency (C2)
- Basque: proficiency (C1)

Education

PhD in Computational Biology | University of Cambridge | 2024 - current

In the 4-Year PhD programme at the Wellcome Sanger Institute, having received a fully funded scholarship from Wellcome. The programme involves rotations and training in the first 8 months, followed by the PhD project.

MRes Bioinformatics and Theoretical Systems Biology | Imperial College London | 2023 - 2024

Grade: **Distinction**. Courses include Mathematics, Computing, Bioinformatics and Theoretical Systems Biology. I undertook two research projects as part of the Theoretical Systems Biology group, supervised by Dr Rubén Pérez-Carrasco, one co-supervised by James Briscoe from the Crick Institute.

BSc Biochemistry with Year in Industry | University College London | 2019 - 2023

Top-ranked student in the Department (**High First**). Completed a year-long Industrial Placement in Biophysics at Nxera Pharma (2021/22). Relevant modules: Bioinformatics, Computational and Systems Biology, Industrial Synthetic Biology, Research Project in Metagenomics. Completed a Literature Project on network biology for Alzheimer's Disease biomarker discovery.

Independent Study | *Coursera*

Courses include Mathematics for Machine Learning (Imperial College London, 35h), Data Science Specialization: Statistics and Machine Learning (Johns Hopkins University, 120h), Deep Neural Networks with PyTorch (IBM, 30h) and others (full list on LinkedIn).

Experience

PhD Student | Wellcome Sanger Institute & University of Cambridge | 2025

My project consists of using and developing AI methods to design enzymes with de novo and natural functions, under the supervision of Debbie Marks and Ben Lehner. I carried out rotations on fine-tuning DNA language models (supervised by Leo Parts) and using Gaussian Processes for interpretability of DNA foundation models (AI for Cell Engineering Lab, supervised by Mo Lotfollahi).

Postgraduate Researcher | Imperial College London & The Francis Crick Institute | 2024

As part of the Theoretical Systems Biology group at Imperial College London, and in collaboration with the Briscoe Lab at the Crick, I improved existing and developed novel information-theoretical tools for single-cell RNAseq data analysis. During the MRes, I was also part of a project aiming to benchmark deep learning methods for Bayesian Inference to parametrise models of gene regulatory networks.

Skills

Data Science & Machine Learning

Mathematical modelling

R and Python Programming

Communication & presentation

Computational biology

Time management

Teamwork

Biochemistry and Molecular Biology

Critical thinking