

Laia Coronas Sala

Biomedical Engineer · Data Scientist · Translational Researcher

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EDUCATION

2025–2026	Master of Translational Medicine UC Berkeley–UCSF · Berkeley / San Francisco Fulbright Scholar. Graduate training in translational medicine, deep-tech development, clinical research, quality/design controls and health innovation.
2024–2026	MSc Health Data Science URV / UPC / UAB / UB · Spain · Remote Thesis: Detecting Dementia Through Dialogue: A Natural Language Processing Approach.
2020–2024	BSc Biomedical Engineering University of Barcelona · Barcelona, Spain Research emphasis in medical imaging, machine learning and computational radiomics.
2019–2024	BSc Biomedical Sciences University of Barcelona · Barcelona, Spain Biomedical-science foundation spanning disease mechanisms, cell biology and pathophysiology.

RESEARCH & PROFESSIONAL EXPERIENCE

2026–present	R&D; Engineer Theranova / Respirix · San Francisco Bay Area • Develop analysis pipelines for physiological signals and non-invasive hemodynamic research. • Support early-stage medical-device development through benchtop testing, usability research, clinical-study preparation and design documentation. • Build reproducible technical analyses and experimental workflows for multidisciplinary R&D; teams.
2023–2026	Machine Learning Engineer & Researcher Lighthouse Disruptive Innovation Group · Boston / Remote • Developed computational methods combining molecular representations, quantum simulation and machine learning for increasingly complex biological systems. • Co-authored peer-reviewed publications and released reusable research resources including QMProt. • Built scientific code, analyses and validation pipelines supporting molecular simulation research.
2023–2024	Research Intern — Computational Radiomics Vall d'Hebron Institute of Oncology · Barcelona, Spain • Developed and benchmarked CT-radiomics pipelines for prediction of immune-checkpoint inhibitor response in solid tumors. • Compared regularized linear and nonlinear ML models with leakage-aware preprocessing and explainability analyses.
2024–2025	Research Collaboration Federal University of Santa Maria · Brazil • Contributed to biomedical research involving nanoparticle formulations and 3D spheroid models.
2022	Hospital / Laboratory Volunteer Federal University of Sergipe · Brazil • Supported clinical laboratory and testing activities in a resource-constrained setting.

SELECTED PUBLICATIONS & RESEARCH OUTPUTS

2025	QMProt: A Comprehensive Dataset of Quantum Properties for Proteins Electronics 14(14), 2825 · Laia Coronas Sala, Parfait Atchade-Adelomou
2025	A Quantum Strategy for the Simulation of Large Proteins: From Fragmentation in Small Proteins to Scalability in Complex Systems Electronics 14(13), 2601 · Parfait Atchade-Adelomou, Laia Coronas Sala
2025	Efficient Protein Ground State Energy Computation via Fragmentation and Reassembly arXiv:2501.03766 · Laia Coronas Sala, Parfait Atchade-Adelomou
2025	QMProt dataset Open research resource · Quantum-mechanical and physicochemical data for protein fragments and amino-acid components.

SELECTED RESEARCH PROJECTS

2026	Detecting Dementia Through Dialogue MSc Health Data Science thesis · - Benchmarked handcrafted linguistic features, TF-IDF, Word2Vec and transformer-based embeddings for dementia classification. - Compared logistic regression, SVM, random forest and gradient boosting; evaluated interpretability and external generalization.
2023–2024	AI for Precision Oncology Vall d'Hebron Institute of Oncology · CT-derived radiomic and clinical biomarkers for immunotherapy-response prediction; best internal configuration achieved AUC ~0.74.
2026–present	SteamClave Global health / medical technology initiative · Low-cost steam-sterilization concept for resource-limited settings; bench validation and implementation planning.

TEACHING & ACADEMIC SERVICE

2026	Graduate Student Instructor UC Berkeley · Berkeley MCB / biology teaching support and student mentorship.
2025	Reader UC Berkeley Bioengineering · Berkeley Course grading and instructional support for undergraduate bioengineering.
2025–2026	Student Ambassador Master of Translational Medicine · UC Berkeley–UCSF Program representation and prospective-student engagement.

AWARDS & RECOGNITION

2025–2026	Fulbright Scholarship Fulbright Program · United States Graduate study and research support in the United States.
2026	Big Ideas Finalist UC Berkeley Big Ideas · Berkeley Seed funding / recognition for SteamClave, a low-resource sterilization initiative.

Undergraduate

Academic distinctions

[University of Barcelona](#) · [Barcelona](#)

Selected course distinctions including Pathophysiology and Cell Biology.

TECHNICAL SKILLS

Machine learning: Python, scikit-learn, PyTorch/transformers, XGBoost, embeddings, SHAP, model validation, dimensionality reduction.

Biomedical data: medical imaging/radiomics, NLP, physiological signals, clinical datasets, statistical analysis.

Engineering: MATLAB, SolidWorks, Arduino, sensor integration, benchtop test systems, experimental design, design-control documentation.

Languages: Catalan and Spanish (native); English (C1); Portuguese (C1); French (B1).

Portfolio draft note: verify dates, official titles, publication formatting and any employer-confidential wording before formal submission.