Pablo Blasco Fernandez

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Education

MSc Biomedical Engineering - ETH Zurich   Sept 2022 – May 2025

- Major in Bioimaging. Relevant coursework: Biomedical Imaging, Neuroinformatics, Image Analysis and Computer Vision, Methods & Models for fMRI Data Analysis - 45 ECTs (50% extra workload) completed in a semester with GPA of 88% (5.25/6)
- Selected as SEMP Scholar twice for research stays at Harvard University

BSc Biomedical Engineering (ranked top 2%) - Carlos III University   Sept 2018 – July 2022

- Semester exchange in Nanyang Technological University of Singapore (KA107 Scholarship - fully covered)
  Relevant coursework: Bioimaging, Case studies in bio-pharma-energy, 3D Printing
- Honours in: Electromagnetism, Material Science and Engineering, Linear Algebra, Information Skills, Writing and Communication Skills, Robotics and Bioethics. Students delegate in year 2021/2022
  Final BSc Thesis: Association between cerebral perfusion and subclinical cardiovascular disease in middle age: processing and analysis of te-pCASL MRI (Honours)
- Extracurricular courses: Introduction to Artificial Intelligence, Management and leadership & Collaborative teamwork

Experience

AI/ML Research Intern - Roche (Basel, Switzerland)   June 2025 – Present

- Working on annotation strategies, data curation, and statistical analysis of mucosal features from endoscopy videos of Ulcerative Colitis patients.
- Developing multi-hierarchical image classification and segmentation models for disease progression characterization.
- Leveraging HPC resources for large-scale training and validation pipelines, with experiment management and version control through GitLab.

Affiliated Researcher - Massachusetts Institute of Technology (Boston, MA, USA)   May 2025 – Present

- Supporting development of Deep Learning models for Tuberculosis detection from chest X-rays, focusing on out-of-distribution detection and robust image classification.
- Collaborating with the Sri Lanka Ministry of Health and medical doctors to curate datasets and integrate clinical expertise into model evaluation.
- Utilizing Hydra and OpenConfig for reproducible experiment configuration management and scalable model deployment workflows.

Graduate Researcher - Harvard University & BWH (Boston, MA, USA)   Sept 2024 – July 2025

- Performed CT segmentation and 3D reconstruction of aortic valves using statistical shape modeling to create patient-specific digital twins, enhancing precision in medical simulations and personalized treatment planning.
- Developed ML classification strategies (KNN, XGBoost, MLP, Lasso) for predicting cardiac clinical outcomes.
- Integrated curated imaging datasets and leveraging statistical analysis to validate model performance and support clinical decision-making.

Data Scientist Intern - Liom AG (Pffafikon, Switzerland)   March 2024 – Oct 2024

- Conducted exploratory data analysis on glucose measurement campaigns to derive key insights
- Improved key performance indicators by optimizing predictive accuracy of metrics from advanced spectroscopic techniques
- Developed and applied an outlier detection strategy for live data collection, leveraging statistical distance measures to handle

distributional anomalies

Graduate Researcher - Harvard University & MGH (Boston, MA, USA) Sept 2023 – March 2024
- Developed a model and generated augmentation strategies for automatic cortical and white matter parcellations using 3D-to-2D projections under the supervision of Juan Eugenio Iglesias in the LEMoN group at the Athinoula A. Martinos Center for Biomedical Imaging

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Graduate Researcher - ETH Zurich Computer Vision Lab (Zurich, Switzerland) March 2023 – Aug 2023
- Semester Project in the Biomedical Image Computing group supervised by Ender Konukoglu, exploring the capabilities and assessing performance of training-free neural network architectures applied to medical images

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Undergraduate Researcher - Spanish National Center for Cardiovascular Research June 2021 – July 2022
(Madrid, Spain)
- Development and optimization of scripts and pipelines in MATLAB and bash for processing and analysing MRI and PET brain images with different radiotracers (fluorodeoxyglucose and amyloid) of subjects from the Progression of Early Subclinical Atherosclerosis (PESA) population study, led by Dr. Valentín Fuster with the group of Marta Cortés Canteli

Publications

Pseudo-rendering for Resolution and Topology-Invariant Cortical Parcellation Oct 2024

Pablo Blasco Fernandez, Karthik Gopinath, John Williams-Ramirez, Rogeny Herisse, Lucas Deden-Binder, Dina Zemlyanker, Theressa Connors, Liana Kozanno, Derek Oakley, Bradley Hyman, Sean Young, Juan Iglesias

International Workshop on Machine Learning in Medical Imaging (MLMI) (2024) - Endorsed by MICCAI 2024 Conference

Institutional Responsibilities and Service

AI4MED - **Corporate Relations Team Lead**	Nov 2023 - Feb 2024
BEST UC3M - **Corporate Relations Department Staff Member**	Sept 2020 - Sept 2022
TEDxUC3M - **Speakers Coordinator (Board of Directors)**	Sept 2020 - Sept 2022
Isabel La Catolica School - **Volunteering Teaching Assistant**	Sept 2015 - May 2017

Awards and Honors

Spotlight Speaker - **Royal Complutense College at Harvard University**	2025
Awarded - **Nova 111 List (Spain)** - Nationwide Ranking Top 10 Engineering Students in 'Other Engineering'	2024
ETH Zurich SEMP Scholarship - Stipend for research studies abroad at Harvard University	2023,2024
Awarded - **'la Caixa' Fellowship (Spain & Portugal)** - Full tuition and stipend for any university worldwide, 11 awardees within 'Engineering and Technology'	2022
KA107+ Scholarship - Non-European mobility scholarship for exchange at NTU Singapore	2021
Spanish Ministry of Education Merit Award - Prize for excellent academic records	2021
Gold Medal - **EIT Health Innovation-Days (Spain)** - Best health startup proposal	2021
Bronze Medal - **EIT Health Innovation-Days (Europe)** - Best affordable health solution	2021
Bronze Medal - **Engineering Medicine Contest (Madrid)** - Top 3 case study solutions	2021
Romanillos Foundation Excellence Scholarship - Full tuition fees for low-income students	2018 to 2021

Skills and Languages

Technologies: Python (NumPy, Pandas, Matplotlib, Seaborn, OpenCV, scikit-learn, PyTorch, Lightning, Weights & Biases), R (RStudio), MATLAB, Blender, git, High-performance Computing

Languages: Spanish (Native), English (C2), German (A1), French (A1)