



Antonia Alomar

PhD Student



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Education

BACHELOR IN BIOMEDICAL ENGINEERING

Universitat Pompeu Fabra, Spain
2016 – 2020

MARTER IN COMPUTATIONAL BIOMEDICAL ENGINEERING

Universitat Pompeu Fabra, Spain
2020 – 2021

PhD STUDENT

Universitat Pompeu Fabra, Spain
2021 – on going

Grants & Awards

- **Collaborative scholarship in university research.** Spanish Ministry of Science and Innovation – 2020-2021
- **Pre-doctoral scholarship.** Spanish Ministry of Science and Innovation (PRE2021-097544) – 2021 – 2025
- **Maria de Maetzu Award for interdisciplinarity in Research** - 2023
- **Winner of the PhD UPF workshop** - 2023

International Stays

- **PhD Stay at Children's National Hospital,** Washington DC, September-December 2022

Teaching

- **3D Vision and Computer Vision.** Universitat Pompeu Fabra - 2022- on going

Languages

ENGLISH – C1 SPANISH – Native
CATALAN – Native GERMAN – B1

Technical Skills

PYTHON – PyTorch, TensorFlow
MATLAB LaTeX
JAVASCRIPT VTK
C/C++ 3D Slicer

Summary

My PhD research aims to aid clinicians in the diagnosis of genetic syndroms at early stages of life (pre-natal and post-natal) developing deep learning tools to perform face base genetic screening.

Research Topics

- **Baby expression model using normalizing flows.** Universitat Pompeu Fabra and Children's National Hospital.
- **Multi-view 2D-3D baby face reconstruction from uncalibrated photographs using ViTs.** Universitat Pompeu Fabra and Children's National Hospital.
- **3D Ultrasound Standard Plane Detection.** Universitat Pompeu Fabra, Hospital del Mar and DEXEUS Hospital
- **Federative Harmonization.** Children's National Hospital and Nvidia Research.

Journal Publications

- **Reconstruction of the fetus face from three-dimensional ultrasound using a newborn face statistical shape model.** Computer Methods and Programs in Biomedicine, DOI: 10.1016/j.cmpb.2022.106893 - 2022
- **BabyNet: Reconstructing 3D faces of babies from uncalibrated photographs.** Pattern Recognition, DOI: 10.1016/j.patcog.2023.109367 - 2023

Abstracts - Posters

- **OP08.05: Prenatal and postnatal facial biometrics analysis using a facial baby morphable model: preliminary results.** 34nd ISUOG, DOI: 10.1002/uog.25185 - 2022
- **Precision and repetability of biometric mesuaraments in 3D ultrasounds: longitudinal study.** VI International Symposium of Fetal Medicine – 2022
- **Neonatal 3D face reconstruction using 2D images.** 20th World Congress in Fetal Medicine - 2023

Conferences

- **3D Fetal Face Reconstruction from Ultrasound Imaging.** In Proceedings of the 16th VISAPP, DOI:10.5220/0010340306150624 - 2021
- **BabyX: Transferring 3D facial expressions from adults to children.** WSCG 2022 Proceedings, DOI: 10.24132/CSRN.3201.14 - 2022