

Alvaro Budria

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My research interests are in Computer Vision, Graphics, and Machine Learning, with a focus on 3D reconstruction and understanding of rigid and nonrigid shapes, human avatars, and human-object interaction.

I am on the search for a PhD position, available to begin from February 2025 onwards.

EDUCATION

Institut de Robòtica i Informàtica Industrial (CSIC-UPC) Nov. 2023 — Present
Predoctoral Student Advisor: Francesc Moreno-Noguer, Jordi Sanchez

Universitat Autònoma de Barcelona (UAB) Sept. 2022 — Sept. 2023
MEng. in Computer Vision GPA: 9.6/10
Best Master's Thesis Award With Distinction (Top 1/33)
Honors in:
3D Vision, Optimization and Inference, Visual Recognition, Machine Learning and Master's Thesis.

Universitat Politècnica de Catalunya (UPC) Sept. 2018 — July. 2022
BEng. in Data Science GPA: 8.29/10
Honors in: Bachelor's Thesis, Algebra and Calculus II.

Eastern European Machine Learning Summer School (EEML) July 2023
Received a Best Poster Award in “applications and social impact” category for my work on sign language.

RESEARCH EXPERIENCE & PUBLICATIONS

Recognized as **outstanding reviewer** for *CVPR 2024*, and for *ECCV 2024*.

Alvaro Budria, Adrian Lopez, Oscar Lorente, Francesc Moreno-Noguer. “InstantGeoAvatar: Efficient Geometry and Appearance Modeling of Animatable Avatars from Monocular Video.” Proc. of the Asian Conference on Computer Vision (ACCV). 2024. arxiv.org/abs/2411.01512

Institut de Robòtica i Informàtica Industrial (CSIC-UPC) Barcelona
Research Intern — funded with a *Beca INIREC* research scholarship Nov. 2022 - May 2023

- Implemented accelerated version of a SoTA method for 3D reconstruction from images ([alvaro-budria/NeuSacc](https://github.com/alvaro-budria/NeuSacc)).

Universitat Politècnica de Catalunya (UPC) Barcelona
Bachelor's Thesis — funded with a *Beca Col·laboració* research scholarship Jan. 2022 - June 2022

- Presented at CVPR Workshop: **Alvaro Budria, Laia Tarrés, Gerard I. Gállego, Francesc Moreno-Noguer, Jordi Torres, Xavier Giro-i-Nieto.** Topic Detection in Continuous Sign Language Videos. *In the CVPR Workshop “AVA: Accessibility, Vision, and Autonomy Meet”*, 2022. arxiv.org/abs/2209.02402, github.com/imatge-upc/sign-topic

INDUSTRY EXPERIENCE

Amazon Berlin
Applied Science Intern Aug. 2024 - Dec. 2024

- Researching into image text content and style editing on lines and paragraphs, targeting ICCV 2025.
- Annotated high-quality dataset for this task, with over 600K samples.
- Developed and trained conditional diffusion model on this dataset.

Aizon Barcelona
ML Engineer Intern Nov. 2021 - July 2022

- Developed a pipeline for segmenting cells in biomedical images. Obtained 0.79 IoU on a held-out dataset.

ZeClinics Sant Cugat del Vallès
Computer Vision Intern Feb. 2021 - June 2021

- Created image and video segmentation pipeline for high-accuracy batch inference on hundreds of images and videos.

PROJECTS

3D Reconstruction of Urban Scenes 2023
<https://github.com/alvaro-budria/3D-Recovery-of-Urban-Scenes>

- Implemented photo-sequencing algorithm for multiple-camera temporal image sorting.
- Performed SfM with COLMAP and Meshroom, for 3D reconstruction of sculptures and architectural scenery.

Single and Multicamera Car Tracking in Residential Scenes 2023
<https://github.com/alvaro-budria/mcv-m6-2023-team2>

- Developed a system for surveillance and traffic monitoring with single and multicamera tracking.
- Achieved re-identification across cameras with metric learning using a Triplet Siamese Network.

MISCELLANEA

- Volunteering:** Deep Learning Barcelona Symposium 2022; Language support for newcomers (*Voluntariat per la Llengua 2023*); Public park cleaning in Berlin (2024). Charity groceries and food packaging in Berlin (2024).
- LauzHack 2023:** 2nd prize (out of 29 teams) at the 2023 EPFL Hackathon for my team's project *VirtuWheel*.
- AmazonHack 2024:** “Most Likely to Get Funded” award (out of 37 teams) for our Infographics Text Corrector.