

# Clara Fernández Labrador

`cfernandezlab.github.io`

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Postdoctoral Researcher in Computer Vision  
Media Technology Center, ETH Zürich (Switzerland)

Spanish phone: (+34) 606237435  
Swiss phone: (+41) 762198807  
**Email: `clabrador@ethz.ch`**

## Interests and Objectives

My main area of interest lies on 3D Computer Vision and Deep Learning. I am particularly excited about 3D indoor scene understanding beyond the traditional sensors, about 3D matching, neural rendering and about unsupervised learning.

## Work/Research Experience

2020–Now	<b>Media Technology Center (MTC), ETH Zürich</b> Postdoctoral Researcher Zürich, Switzerland
2020 (3 months)	<b>Disney Research   Studios</b> Research Engineer Supervised by Hayko Riemenschneider. Zürich, Switzerland
2019–2020 (7 months)	<b>Computer Vision Laboratory (CVL), ETH Zürich</b> Visiting Researcher Automatic discovery of category-specific keypoints on collection of 3D objects, advised by Dr. Ajad Chhatkuli, Dr. Danda Pani Paudel and Professor Luc Van Gool. Zürich, Switzerland
2017 (7 months)	<b>Robotics, Perception &amp; Real Time Group, University of Zaragoza</b> Research Engineer 3D room layout reconstruction using single panoramic images, advised by Dr. Alejandro Perez and Professor Josechu Guerrero. Zaragoza, Spain
2015 (5 months)	<b>Colombin &amp; Figlio Spa</b> Undergraduate Intern Security management planning. Trieste, Italy
2014 (3 months)	<b>Tecnopackaging</b> Undergraduate Intern 3D CAD design and injection simulations for human prosthetics with biocompatible plastic materials. Zaragoza, Spain

## Educational Background

- 2017–2020 **Doctor of Philosophy in Computer Vision**  
**University of Zaragoza, Spain & University of Burgundy, France**  
PhD Thesis: *Indoor Scene Understanding using Non-Conventional Cameras.*  
Advisors: Josechu Guerrero and Cédric Demonceaux
- 2016–2017 **Erasmus Programme**  
**Politecnico di Torino, Italy**
- 2015–2017 **Master’s Degree in Industrial Engineering**  
**University of Zaragoza**  
Master’s Thesis: *3D Room Layout Estimation from a Single 360 Panorama.*  
Advisors: Alejandro Perez and Josechu Guerrero
- 2014–2015 **Erasmus Programme**  
**Università degli studi di Trieste, Italy**
- 2011–2015 **Bachelor’s Degree in Industrial Engineering**  
**University of Zaragoza**  
Bachelor’s Thesis: *Security Management Planning.*  
Advisors: Ángel Fernández and Nicolich Marino

## Publications

### Journals, Conferences and Workshops

- **[c4] Unsupervised Learning of Category-Specific Symmetric 3D Keypoints from Point Sets.** Clara Fernández Labrador, Ajad Chhatkuli, Danda Pani Paudel, José J. Guerrero, Cédric Demonceaux, Luc Van Gool. European Conference on Computer Vision (ECCV 2020).
- **[c3] What’s in my Room? Object Recognition on Indoor Panoramic Images.** Julia Guerrero-Viu\*, Clara Fernández Labrador\*, Cédric Demonceaux, José J. Guerrero. International Conference on Robotics and Automation (ICRA 2020).
- **[j2–c2–w3] Corners for Layout: End-to-End Layout Recovery from 360 Images.** Clara Fernández Labrador\*, J. María Fácil\*, Alejandro Pérez Yus, Cédric Demonceaux, Javier Civera, José J. Guerrero. Women in Computer Vision Workshop & Robotics and Automation Letters & International Conference on Robotics and Automation (CVPR 2019, RA-L & ICRA 2020).
- **[w2] PanoRoom: From the Sphere to the 3D Layout.** Clara Fernández Labrador, J. María Fácil, Alejandro Pérez Yus, Cédric Demonceaux, José J. Guerrero. 3D Reconstruction Meets Semantics Workshop (ECCV 2018).
- **[j1–c1] Layouts from Panoramic Images with Geometry and Deep Learning.** Clara Fernández Labrador, Alejandro Pérez Yus, Gonzalo López Nicolás, José J. Guerrero. Robotics and Automation Letters & International Conference on Intelligent Robots (RA-L & IROS 2018).
- **[w1] Full 3D Layout Reconstruction from One Single 360° Image.** Clara Fernández Labrador, Alejandro Pérez Yus, Gonzalo López Nicolás, José J. Guerrero. Women in Computer Vision Workshop (ECCV 2018).

## Supervised Bachelor/Master Thesis

2021	<i>3D Face Modeling for Video Synthesis.</i> Robin Renggli. Bachelor's Degree in Computer Science, ETH Zürich
2021	<i>Novel View Synthesis for Personalized Moderations.</i> Yannick Schmid. Bachelor's Degree in Computer Science, ETH Zürich
2019	<i>Object Recognition in 360 Images.</i> Julia Guerrero Campo. Bachelor's Degree in Computer Science, University of Zaragoza
2018	<i>Single View Layout Reconstruction.</i> Juan Carlos Medina. Bachelor's Degree in Industrial Engineering, University of Zaragoza

## Invited talks

- Guest Lecture - Mathematical Foundations of Computer Graphics and Vision (2021), ETH Zürich.
- Guest Lecture - Master Program in Robotics, Graphics and Computer Vision (2020), University of Zaragoza.

## Languages

English	Fluent (C1+)
Italian	Fluent (C1+)
French	Intermediate
German	Beginner
Spanish	Native

## Reference List

- **Severin Klingler** (severin.klingler@inf.ethz.ch)  
ETH Zürich  
Media Technology Center  
Zürich, Switzerland
- **Hayko Riemenschneider** (hayko.riemenschneider@disneyresearch.com)  
Disney Research Studios  
Zürich, Switzerland
- **Ajad Chhatkuli** (ajad.chhatkuli@vision.ee.ethz.ch)  
ETH Zürich  
Computer Vision Laboratory  
Zürich, Switzerland
- **Danda Pani Paudel** (paudel@vision.ee.ethz.ch)  
ETH Zürich  
Computer Vision Laboratory

Zürich, Switzerland

- **Josechu Guerrero** (jguerrer@unizar.es)  
University of Zaragoza  
Robotics, Perception and Real-Time Group, I3A  
Zaragoza, Spain
- **Cédric Demonceaux** (cedric.demonceaux@u-bourgogne.fr)  
University of Burgundy  
VIBOT ERL CNRS 6000, ImViA  
Dijon, France