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: cfernandez@unizar.es

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 — **Media Technology Center (MTC), ETH Zürich**
Postdoctoral Researcher
Zürich, Switzerland

2020 (3 months) — **Disney Research | Studios**
Research Engineer
Supervised by Hayko Riemenschneider.
Zürich, Switzerland

2019–2020 (7 months) — **Computer Vision Laboratory (CVL), ETH Zürich**
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) — **Robotics, Perception** & **Real Time Group, University of Zaragoza**
Research Engineer
3D room layout reconstruction using single panoramic images, advised by Dr. Alejandro Perez and Professor Josechu Guerrero.
Zaragoza, Spain

2015 (5 months) — **Colombin** & **Figlio Spa**
Undergraduate Intern
Security management planning.
Trieste, Italy

2014 (3 months) — **Tecnopackaging**
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	*3D Face Modeling for Video Synthesis.* Robin Renggli. Bachelor's Degree in Computer Science, ETH Zürich
2021	*Novel View Synthesis for Personalized Moderations.* Yannick Schmid. Bachelor's Degree in Computer Science, ETH Zürich
2019	*Object Recognition in 360 Images.* Julia Guerrero Campo. Bachelor's Degree in Computer Science, University of Zaragoza
2018	*Single View Layout Reconstruction.* 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