

# Ph.D Pierluigi Zama Ramirez

## Curriculum Vitae

### OVERVIEW

**Me:** I am Postdoctoral researcher in Computer Vision and Deep Learning. Actually working at CVLAB, University of Bologna.

**My Research:** During the last years, I investigated the potential of Deep Learning in a variety of Computer Vision topics such as Semantic Segmentation, Optical Flow, Depth Estimation, Novel View Synthesis, and 3D Reconstruction. I also investigated the problem of the lack of annotated data to train neural networks in real scenarios and proposed several solutions which exploit computer graphics simulations, self-supervised or transfer learning techniques.

### WORK EXPERIENCE

University of Bologna  
**Postdoctoral Researcher**  
1st year: Research Project in 3D Computer Vision with Artificial Intelligence granted by Huawei.

FEB 2021 – PRESENT (FT)

Google Inc  
**Research SWE Intern**  
Research Project in Computer Vision and Artificial Intelligence focused on Novel View Synthesis.  
MENTOR: FEDERICO TOMBARI

APRIL 2020 – SEP 2020 (FT)

Bierrebi Italia Srl  
**Scholarship**  
Applying Computer Vision in Textile Industry. Worked on Pattern Recognition for anomaly detection and Linear Cameras Calibration.

JUL 2017 – NOV 2017 (FT)

### EXTRA PROJECTS

Datalogic & T3Lab & University of Bologna  
**AIDA - Adaptive Industrial Automation Through Cyber-Physical Vision System**  
AIDA is a co-funded Emilia-Romagna Region project for Industry 4.0. I developed a deep learning architecture for object detection and orientation regression in an industrial application.

NOV 2017 – APR 2018

### TECHNOLOGIES

PROGRAMMING	Python, Bash, C, C++, C#, Java
FRAMEWORKS	Tensorflow, Pytorch, OpenCV, Halcon
DEVELOPMENT	VS, VS Code, Git
GRAPHICS	Blender, Unity
OS	Windows, Ubuntu

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🏠 29 of December 1992, Rome, Italy

### EDUCATION

NOV 2017 – MAY 2021  
University of Bologna  
**Doctor of Philosophy**

Winner of a 3-year scholarship sponsored by T3Lab on deep learning for computer vision.

THESIS: **Deep Scene Understanding with Limited Training Data.**

ADVISOR: PROF. LUIGI DI STEFANO

JUL 2019

**International Computer Vision Summer School**

University of Bilbao  
**International Summer School on Deep Learning**

JUL 2017

University of Bologna  
**Master in Computer Engineering**

DEC 2014 – MAR 2017

FINAL DEGREE MARK: 110/110 cum laude, Average Grade : 29.29/30.

THESIS: "Estimation of depth and semantics by a CNN trained on computer-generated and real data"

ADVISOR: PROF. LUIGI DI STEFANO

SEP 2011 – DEC 2014

University of Bologna  
**Bachelor in Computer Engineering**

FINAL DEGREE MARK: 110/110 cum laude, Average Grade : 28.74/30.

THESIS: "Control of peripheral devices mapped on a Zynq platform with Linux"

ADVISOR: PROF. STEFANO MATTOCCIA

### LANGUAGES

ITALIAN	Mothertongue
ENGLISH	CEFR: C1 IELTS, 11/02/2017, Overall Band 7.0/9.0
SPANISH	CEFR: B2

### AWARDS

2021	<b>Best Paper Honorable Mention</b> 3DV 2021
2018	<b>Borsa di Studio e di Ricerca</b> BCC - Credito Cooperativo

## TEACHING

MAY 2022 – JUN 2022

### University of Bologna PhD Course

Deep Scene Understanding from Images

SEP 2019 – PRESENT

### University of Bologna Teaching Assistant of Computer Vision and Image Processing

Teaching Assistant for a Master degree course at University of Bologna

SEP 2022 – PRESENT

### University of Bologna Teaching Assistant of "Reti Logiche"

Teaching Assistant for a Bachelor degree course at University of Bologna

NOV 2017 – PRESENT

### University of Bologna Co-supervisor for bachelor and master thesis

## REVIEWING

I have been a reviewer for important computer science conferences: IROS 2018, ECAI 2020, ICPR 2021, CVPR 2021, ICCV 2021, WACV 2022, CVPR 2022, ECCV 2022

## “ PUBLICATIONS & CONFERENCES

Zama Ramirez, Pierluigi\*, Tosi, Fabio\*, Poggi, Matteo\*, Salti, Samuele, Mattocchia, Stefano, Di Stefano, Luigi. Open Challenges in Deep Stereo: the Booster Dataset **CVPR 2022. \* Equal Contribution**

[Project Page](#)

Tosi, Fabio\*, Zama Ramirez, Pierluigi\*, Poggi, Matteo\*, Salti, Samuele, Mattocchia, Stefano, Di Stefano, Luigi. RGB-Multispectral Matching: Dataset, Learning Methodology, Evaluation **CVPR 2022. \* Equal Contribution**

[Project Page](#)

Tosi, Fabio\*, Aleotti, Filippo\*, Zama Ramirez, Pierluigi\*, Poggi, Matteo, Salti, Samuele, Mattocchia, Stefano, Di Stefano, Luigi. Distilled Semantics for Comprehensive Scene Understanding from Videos. **CVPR 2020. \* Equal Contribution**

[Paper](#) [Project Page](#)

Zama Ramirez, Pierluigi, Tonioni, Alessio, Salti, Samuele, Di Stefano, Luigi. Learning Across Tasks and Domains. **ICCV 2019.**

[Paper](#) [Project Page](#)

Aleotti, Filippo\*, Tosi, Fabio\*, Zama Ramirez, Pierluigi\*, Poggi, Matteo, Salti, Samuele, Mattocchia, Stefano, Di Stefano, Luigi. Neural Disparity Refinement for Arbitrary Resolution Stereo. **3DV 2021. \* Equal Contribution. Best Paper Honorable Mention.**

[Paper](#) [Project Page](#)

Zama Ramirez, Pierluigi, Paternesi, Claudio, De Luigi, Luca, De Gregorio, Daniele, Di Stefano, Luigi. Shooting Labels: 3D Semantic Labeling by Virtual Reality. **AIVR 2020. Best Paper Nominee.**

[Paper](#) [Project Page](#)

Poggi, Matteo\*, Zama Ramirez, Pierluigi\*, Tosi, Fabio\*, Salti, Samuele, Mattocchia, Stefano, Di Stefano, Luigi. Cross-Spectral Neural Radiance Fields. **3DV 2022. \* Equal Contribution.**

[Paper](#) [Project Page](#)

Cardace, Adriano, Spezialetti, Riccardo, Zama Ramirez, Pierluigi, Salti, Samuele, Di Stefano, Luigi. RefRec: Pseudo-labels Refinement via Shape Reconstruction for Unsupervised 3D Domain Adaptation. **3DV 2021. Oral.**

[Paper](#) [Project Page](#)

Cardace, Adriano, De Luigi, Luca, Zama Ramirez, Pierluigi, Salti, Samuele, Di Stefano, Luigi. Plugging Self-Supervised Monocular Depth into Unsupervised Domain Adaptation for Semantic Segmentation. **WACV 2022.**

[Paper](#) [Project Page](#)

Cardace, Adriano, Zama Ramirez, Pierluigi, Salti, Samuele, Di Stefano, Luigi. Shallow Features Guide Unsupervised Domain Adaptation for Semantic Segmentation at Class Boundaries. **WACV 2022.**

[Paper](#)

Zama Ramirez, Pierluigi, Poggi, Matteo, Tosi, Fabio, Mattocchia, Stefano, Di Stefano, Luigi. Geometry meets semantics for semi-supervised monocular depth estimation. **ACCV 2018**

[Paper](#) [Project Page](#)

Zama Ramirez, Pierluigi, Tonioni, Alessio, Di Stefano, Luigi. Exploiting Semantics in Adversarial Training for Image-Level Domain Adaptation. International Conference on Image Processing, Applications and Systems (**IPAS**) 2018

[Paper](#)

De Gregorio, Daniele, Poggi, Matteo, Zama Ramirez, Pierluigi, Palli, Gianluca, Mattocchia, Stefano, Di Stefano, Luigi. Beyond the baseline: 3D reconstruction of tiny objects with Single camera Stereo Robot. **IEEE Access.**

[Paper](#)

Zama Ramirez, Pierluigi, Tonioni, Alessio, Tombari, Federico. Unsupervised Novel View Synthesis from a Single Image **Arxiv 2021.**

[Paper](#)

Zama Ramirez, Pierluigi, Paternesi, Claudio, De Gregorio, Daniele, Di Stefano, Luigi. Shooting Labels by Virtual Reality. Third Workshop on Computer Vision for AR/VR - **CVPRW 2019.**

[Paper](#)

Zama Ramirez, Pierluigi, Tonioni, Alessio, Di Stefano, Luigi. Domain Adaptation by a Semantic-Aware GAN. European Machine Vision Association Forum (**EMVF**) 2018. Oral presentation.

De Gregorio, Daniele, Zama Ramirez, Pierluigi, Di Stefano, Luigi. Large Scale 3D Semantic Mapping. European Machine Vision Association Forum (**EMVF**) 2018. Oral presentation.

Zama Ramirez, Pierluigi, Tonioni, Alessio, Di Stefano, Luigi. A Novel Generative Model to Synthesize Realistic Training Images. **SIAM** Conference on Imaging Science 2018.

[Poster](#)

Cardace, Adriano, Spezialetti, Riccardo, Zama Ramirez, Pierluigi, Salti, Samuele, Di Stefano, Luigi. Self-Distillation for Unsupervised 3D Domain Adaptation. **WACV 2023**.

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