Ph.D
Pierluigi Zama Ramirez

Curriculum Vitae

Via San Petronio Vecchio 42/2, Bologna, Italy
+39 320 2839639
zamapierluigi@hotmail.it
pierluigi-zama-ramirez-b02770171
https://pierlui92.github.io
29 of December 1992, Rome, Italy

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

FEB 2021 – PRESENT (FT)

University of Bologna
Postdoctoral Researcher

1st year: Research Project in 3D Computer Vision with Artificial Intelligence granted by Huawei.

APRIL 2020 – SEP 2020 (FT)

Google Inc
Research SWE Intern

Research Project in Computer Vision and Artificial Intelligence focused on Novel View Synthesis.
MENTOR: FEDERICO TOMBARI

JUL 2017 – NOV 2017 (FT)

Bierrebi Italia Srl
Scholarship

Applying Computer Vision in Textile Industry. Worked on Pattern Recognition for anomaly detection and Linear Cameras Calibration.

EXTRA PROJECTS

NOV 2017 – APR 2018

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.

TECHNOLOGIES

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

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

JUL 2017

University of Bilbao
International Summer School on Deep Learning

DEC 2014 – MAR 2017

University of Bologna
Master in Computer Engineering

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 Brand 7.0/9.0
SPANISH	CEFR: B2

AWARDS

2021 **Best Paper Honorable Mention**
3DV 2021

2018 **Borsa di Studio e di Ricerca**
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, Mattoccia, Stefano, Di Stefano, Luigi. Open Challenges in Deep Stereo: the Booster Dataset **CVPR 2022. * Equal Contribution**
Paper Project Page

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

Tosi, Fabio*, Aleotti, Filippo*, Zama Ramirez, Pierluigi*, Poggi, Matteo Salti, Samuele, Mattoccia, 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, Mattoccia, 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, Mattoccia, 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, Mattoccia, 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, Mattoccia, 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 Synthetize 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**.
Paper Project Page .