

Alessio Tonioni

RESEARCHER AT COMPUTER VISION LAB UNIVERSITY OF BOLOGNA

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Working Experience

Unibo(University of Bologna)

Bologna, Italy

RESEARCH FELLOW AT COMPUTER VISION LAB.

Jan. 2019 - PRESENT

- Winner of 1 year post-doc research position in computer vision on few shot object detection and recognition.
- **Supervisor:** Luigi Di Stefano

Education

University of Bologna

Bologna, Italy

PH.D. STUDENT IN COMPUTER SCIENCE AND ENGINEERING

Nov. 2015 - Nov. 2018

- Winner of a scholarship sponsored by Centro Studi S.R.L. for a three years research project on the use of computer vision techniques in retail and wholesale stores.
- **Supervisor:** Luigi Di Stefano

University of Oxford

Oxford, England

VISITING STUDENT

May. 2018 - Nov. 2018

- Six months internship in Torr Vision Group, working on depth estimation for autonomous driving under the StreetWise grant.
- **Supervisor:** Philip Torr

University of Bologna

Bologna, Italy

MASTER DEGREE IN COMPUTER ENGINEERING

2013 - 2015

- **Final Rank:** 110/110 with honors
- **Master Thesis:** Automatic learning of multi scale 3D keypoint detector.
- **Supervisor:** Luigi Di Stefano.
- **Co-supervisors:** Federico Tombari and Samuele Salti.

University of Bologna

Bologna, Italy

BACHELOR DEGREE IN COMPUTER ENGINEERING

2010 - 2013

- **Final Rank:** 110/110 with honors
- **Master Thesis:** Study and implementation of algorithms for the 3D reconstruction of rooms and the automatic navigation of autonomous drone - <http://youtu.be/V1BQLbmc03g>
- **Supervisor:** Lorenzo Marconi.
- **Co-supervisors:** Roberto Naldi and Michele Furci.

ADDITIONAL COURSES AND SCHOOLS

- **International Computer Vision Summer School**, July 2016, University of Catania
- **Regularization techniques for machine learning (Summer School)**, June 2016, University of Genova, Dibris, Istituto Italiano di Tecnologia
- **Machine Learning Crash Course (Summer School)**, June 2015, University of Genova, Dibris, Istituto Italiano di Tecnologia

Teaching Experience

Specialvideo and Fondazione Aldini Valeriani

Bologna, Italy

CORPORATE TRAINER ON MACHINE LEARNING

Feb. 2018 - PRESENT

- Teacher of a 16 hours corporate training course in machine/deep learning.

University of Bologna

Bologna, Italy

ACADEMIC TUTOR

Sept. 2016 - sept. 2018

- Tutor of the Computer Vision and Image Processing M course.

Publications

During my Ph.D. I have worked on the detection and recognition of products exposed on grocery store shelves and on the estimation of the 3D structure of a scene from RGB images. Those and others projects resulted in some scientific publications I have co-authored. An updated and comprehensive list of my published articles is available at: <https://bit.ly/2pLYvJ3>. A selection is reported below:

Unsupervised Adaptation for Deep Stereo

*International Conference on
Computer Vision*
2017

TONIONI A., POGGI M., MATTOCCIA S., DI STEFANO L.

- **Paper:** https://vision.disi.unibo.it/~mpoggi/papers/iccv2017_adaptation.pdf
- **Code:** <https://github.com/CVLAB-Unibo/Unsupervised-Adaptation-for-Deep-Stereo>

Learning to Detect Good 3D Keypoints

*International Journal of Computer
Vision*
2018

TONIONI A., SALTI S., TOMBARI F., SPEZIALETTI R., DI STEFANO L.

- **Paper:** <https://link.springer.com/article/10.1007/s11263-017-1037-3>
- **Code:** <https://github.com/CVLAB-Unibo/Keypoint-Learning>

Real-time self-adaptive deep stereo

*IEEE Conference on Computer Vision
and Pattern Recognition*
2019

TONIONI A., TOSI F., POGGI M., MATTOCCIA S. AND DI STEFANO L.

- **Paper:** <https://arxiv.org/abs/1810.05424>
- **Code:** <https://github.com/CVLAB-Unibo/Real-time-self-adaptive-deep-stereo>

Learning to Adapt for Stereo

*IEEE Conference on Computer Vision
and Pattern Recognition*
2019

TONIONI A., JOY T., RAHANAMA O., DI STEFANO L., AJANTHAN T., TORR P.

- **Paper:** *yet to be released*
- **Code:** <https://github.com/CVLAB-Unibo/Learning2AdaptForStereo>

Domain invariant hierarchical embedding for grocery products recognition

*Computer Vision and Image
Understanding*
2019

TONIONI A. AND DI STEFANO L.

- **Paper:** <https://doi.org/10.1016/j.cviu.2019.03.005>

Unsupervised Domain Adaptation for Depth Prediction from Images

*Transactions on Pattern Analysis
and Machine Intelligence*
2019

POGGI M., TONIONI A., MATTOCCIA S. AND DI STEFANO L.

- **Paper:** *under review*

Skills

Programming skills

[HTTPS://GITHUB.COM/ALESSIOTONIONI](https://github.com/AlessioTonioni)

- **Main programming languages:** Python, C++, C#, C, Java.
- **Machine learning frameworks used:** TensorFlow, PyTorch and Caffe on linux environment.
- **Other frameworks and libraries:** OpenCV, PCL, Ros.
- **Side Projects:** I developed during 2013/14 **"Blam!"**, a user powered comic strip aggregator for windows phone.

Language

- **Italian:** mother tongue.
- **English:** C1.