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

Unibo(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

Unibo(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.

Unibo(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 autonomus drone* - `http://youtu.be/VlBQLbmc03g`
- **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

Tonioni A., Poggi M., Mattoccia S., Di Stefano L. — *2017*

- **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

Tonioni A., Salti S., Tombari F., Spezialetti R., Di Stefano L. — *2018*

- **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

Tonioni A., Tosi F., Poggi M., Mattoccia S. and Di Stefano L. — *2019*

- **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

Tonioni A., Joy T., Rahanama O., Di Stefano L., Ajanthan T., Torr P. — *2019*

- **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

Tonioni A. and Di Stefano L. — *2019*

- **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

Poggi M., Tonioni A., Mattoccia S. and Di Stefano L. — *2019*

- **Paper:** *under review*

Skills

Programming skills

https://github.com/AlessioTonioni

- **Main programming languages**: Python, C++, C#, C, Java.
- **Machine learning frameworks used**: TesorFlow, 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.