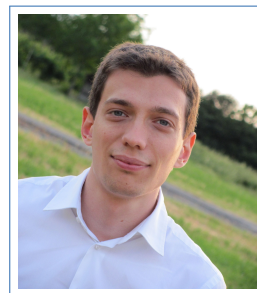


Lorenzo Baraldi

Curriculum Vitae

✉ lorenzo.baraldi@unimore.it

🌐 www.lorenzobaraldi.com



Education

- 2014–on going **PhD Student**, *University of Modena and Reggio Emilia, Italy*.
Research topics: Multimedia technologies for video analysis, tagging, retrieval and accessing
Supervisor: Prof. Rita Cucchiara
- 2012–2014 **Master Degree in Computer Engineering**, *University of Modena and Reggio Emilia, Italy*.
Mark: 110/110 cum laude
Thesis title: “Hand Segmentation and Gesture Recognition in Ego-centric Videos”
Supervisors: Prof. Rita Cucchiara, Dr. Giuseppe Serra
Abstract: The thesis explores and proposes state-of-the-art computer vision and pattern recognition techniques for hand segmentation and gesture recognition in egocentric vision. The proposed algorithms are tested on prototype wearable sensors.
- 2008–2011 **Bachelor Degree in Computer Engineering**, *University of Modena and Reggio Emilia, Italy*.
Mark: 110/110 cum laude
Thesis title: “Dimensionality reduction techniques for Web datasets: PCA vs SVD”
Supervisor: Dr. Riccardo Lancellotti
- 2003–2008 **Scientific High School Diploma**, *Scientific High School “A. Tassoni”, Modena, Italy*.
Mark: 100/100 cum laude

Languages

- Italian **Mother tongue**
- English **Council of Europe Level B2 – Cambridge ESOL Certificate**
- French **Basic**

Computer skills

- Programming languages C, C++, Matlab, Python, Java, Javascript, CUDA, HTML
- Databases SQL, Microsoft SQL Server
- Libraries OpenCV, Caffe, Theano, Tensorflow, Keras

Research Interests

- Computer Vision
- Image Processing
- Pattern Recognition and Machine Learning
- Deep Learning
- Multimedia

Seminars, courses and events attended

- 2016 International Conference on Pattern Recognition - ICPR, Cancun (Mexico)
ACM Multimedia - Amsterdam
European Conference on Computer Vision - ECCV, Amsterdam
"Hidden Markov Models and Selected Applications" – Prof. Jon Ander Gomez Adrian (UPV)
International VISMAC Summer School - Grado
ACM International Conference on Multimedia Retrieval - ICMR, New York
12th Italian Research Conference on Digital Libraries - IRCDL, Firenze
"Challenge, Experience, Master, Reward: games, psychology and cognitive neuroscience" – Dott. Alan Mattiassi
"Complex and multilayer networks: from structure to dynamics" – Dott. Stefano Boccaletti
- 2015 "Insights from Big Data: Interaction, Design and Innovation" – Dr. Alejandro Jaimes
"A Vision for the Future of Computer Science & Engineering and Higher Education" – Dr. James C. Spohrer (Leader of IBM's Cognitive Systems Institute Group)
"Innovation, Inspiration and Vision" – Prof. Arnold Smeulders - Professor at the University of Amsterdam, Director of COMMIT, Founder of EuVision
"GPU Programming" – Dott. Francesco Paci
"Computer Graphics and 3D Reconstruction" – Prof. Nadia Magnenat Thalmann (Director of the Institute for Media Innovation in Singapore) and Prof. Daniel Thalmann
"Diffusion of Information in Social Media" – Prof. William Rand, University of Maryland
"Academic English Workshop I" – Dott. Silvia Cavalieri
"Academic English Workshop II" – Dott. Silvia Cavalieri
11th Italian Research Conference on Digital Libraries - IRCDL, Bolzano
7th Iberian Conference on Pattern Recognition and Image Analysis - IbPRIA, Santiago de Compostela
International Conference on Multimedia and Expo - ICME, Torino
International Computer Vision Summer School - ICVSS, Sicily
- 2014 "Second Short Spring School on Surveillance" – S5
"Egocentric Recognition of Objects and Activities" – Prof. James M. Rehg

- “Active Contours in Image Processing and Computer Vision” – Prof. Anthony Yezzi
“Introduction to Machine Learning and Online Learning” – Prof. Roberto Paredes
2012 “Analyzing human activities in video” – Prof. Larry Davis

Grants and awards

- 2016 Italian Supercomputing Resource Allocation (ISCRA) Grant from CINECA, for accessing the Galileo HPC Platform.
2016 NVIDIA Hardware Grant, with the donation of one Tesla K40 GPU
Italian Supercomputing Resource Allocation (ISCRA) Grant from CINECA, for accessing the Galileo HPC Platform.

Teaching activities

- 2016 Laboratory lecturer for the Computer Vision course, Prof. Cucchiara, at University of Modena and Reggio Emilia
Tutor for the Fundamentals of Computer Science I course, at University of Modena and Reggio Emilia
2015 Laboratory lecturer for the Computer Vision course, Prof. Cucchiara, at University of Modena and Reggio Emilia
Laboratory lecturer for the graduate Master in Visual Computing and Multimedia Technologies, at University of Modena and Reggio Emilia
Tutor for the Fundamentals of Computer Science I course, at University of Modena and Reggio Emilia
Teaching assistant for the Machine Learning course: three lectures on Deep Learning and Convolutional Neural Networks

Theses supervision

- Gianluca Puglia (MSc) - Image and Video Captioning
Federico Bolelli (MSc, currently PhD Student) - Connected Components Labeling
Marcella Cornia (MSc, currently PhD Student) - Deeply learned Saliency prediction
Fabio Pozzi (MSc) - Shot and scene detection in broadcast videos
Angelo Perri (BSc) - Optimization of convolution algorithms on GPU architectures
Dodiane Carole Ngatcha Nana (BSc) - Optimization of convolution algorithms on multicore architectures

Journals Reviewing

- IEEE Transactions on Multimedia
Multimedia Tools and Applications
IEEE Transactions on Human-Machine Systems

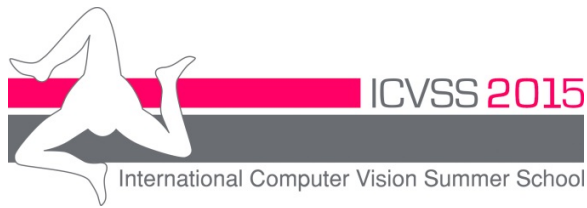
Others

- General Chair for IRCDL 2017

Publications

- 2016 Francesco Paci, Lorenzo Baraldi, Giuseppe Serra, Rita Cucchiara, and Luca Benini. Context change detection for an ultra-low power low-resolution ego-vision imager. In *ECCV Workshops*, 2016.
- Costantino Grana, Lorenzo Baraldi, and Roberto Vezzani. Yacclab - yet another connected components labeling benchmark. In *Proceedings of the 23rd International Conference on Pattern Recognition*, Cancun, Mexico, December 2016.
- Costantino Grana, Lorenzo Baraldi, and Federico Bolelli. Optimized connected components labeling with pixel prediction. In *Advanced Concepts for Intelligent Vision Systems*, 2016.
- Marcella Cornia, Lorenzo Baraldi, Giuseppe Serra, and Rita Cucchiara. Predicting human eye fixations via an lstm-based saliency attentive model. *arXiv preprint arXiv:1611.09571*, 2016.
- Marcella Cornia, Lorenzo Baraldi, Giuseppe Serra, and Rita Cucchiara. Multi-level net: a visual saliency prediction model. In *ECCV Workshops*, 2016.
- Marcella Cornia, Lorenzo Baraldi, Giuseppe Serra, and Rita Cucchiara. A deep multi-level network for saliency prediction. In *Proceedings of the 23rd International Conference on Pattern Recognition*, Cancun, Mexico, December 2016.
- Andrea Corbelli, Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. Historical document digitization through layout analysis and deep content classification. In *Proceedings of the 23rd International Conference on Pattern Recognition*, Cancun, Mexico, December 2016.
- Andrea Corbelli, Lorenzo Baraldi, Fabrizio Balducci, Costantino Grana, and Rita Cucchiara. Layout analysis and content classification in digitized books. In *Proceedings of the 12th Italian Research Conference on Digital Libraries*, Firenze, February 2016.
- Lorenzo Baraldi, Costantino Grana, Alberto Messina, and Rita Cucchiara. A browsing and retrieval system for broadcast videos using scene detection and automatic annotation. In *ACM Multimedia*, 2016.
- Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. Recognizing and presenting the storytelling video structure with deep multimodal networks. *IEEE Transactions on Multimedia*, 2016.
- Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. Hierarchical boundary-aware neural encoder for video captioning. *arXiv preprint arXiv:1611.09312*, 2016.
- Lorenzo Baraldi, Costantino Grana, Guido Borghi, Roberto Vezzani, and Rita Cucchiara. Shot, scene and keyframe ordering for interactive video re-use. In *Proceedings of the 11th International Conference on Computer Vision Theory and Applications*, Rome, February 2016.
- Lorenzo Baraldi, Costantino Grana, Guido Borghi, Roberto Vezzani, and Rita Cucchiara. Scene-driven retrieval in edited videos using aesthetic and semantic deep features. In *Proceedings of the 6th ACM on International Conference on Multimedia Retrieval*, New York, June 2016.

- 2015 Lorenzo Baraldi, Francesco Paci, Giuseppe Serra, Luca Benini, and Rita Cucchiara. Gesture recognition using wearable vision sensors to enhance visitors' museum experiences. *IEEE Sensors Journal*, 15(5):2705–2714, March 2015.
- Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. Shot and scene detection via hierarchical clustering for re-using broadcast video. In *Proceedings of the 16th International Conference on Computer Analysis of Images and Patterns*, Valletta, Malta, September 2015.
- Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. Scene segmentation using temporal clustering for accessing and re-using broadcast video. In *Proceedings of the IEEE International Conference on Multimedia and Expo (IEEE ICME 2015)*, Torino, Italy, June 2015.
- Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. Measuring scene detection performance. In *Proceedings of the 7th Iberian Conference on Pattern Recognition and Image Analysis*, pages 395–403, Santiago de Compostela, Spain, July 2015.
- Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. A deep siamese network for scene detection in broadcast videos. In *Proceedings of the 23rd ACM International Conference on Multimedia*, October 2015.
- Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. Analysis and re-use of videos in educational digital libraries with automatic scene detection. In *Proceedings of the 11th Italian Research Conference on Digital Libraries*, Bolzano, Italy, January 2015.
- 2014 Lorenzo Baraldi, Francesco Paci, Giuseppe Serra, Luca Benini, and Rita Cucchiara. Gesture recognition in ego-centric videos using dense trajectories and hand segmentation. In *Proc. of 10th IEEE Embedded Vision Workshop (EVW)*, Columbus, Ohio, June 2014.
- 2013 Giuseppe Serra, Marco Camurri, Lorenzo Baraldi, Michela Benedetti, and Rita Cucchiara. Hand segmentation for gesture recognition in ego-vision. In *Proc. of ACM Multimedia International Workshop on Interactive Multimedia on Mobile and Portable Devices (IMMPD)*, Barcelona, Spain, October 2013.



To whom it may concern

This is to certify that Lorenzo Baraldi has successfully completed examination session (1 hour) at the International Computer Vision Summer School, held in Sicily, Italy from the 12th of July to the 18th of July 2015. The examination paper was related the courses (30 hours) delivered by the following world-renowned experts in the field, from both academia and industry:

- Yoshua Bengio, Université de Montréal, Canada
- Thomas Brox, University of Freiburg, Germany
- Daniel Buchmuller, Amazon, Cambridge, UK
- Fei-Fei Li, Stanford University, USA
- Marc Pollefeys, ETH Zurich, Switzerland
- Silvio Savarese, Stanford University, USA
- Cees Snoek, University of Amsterdam, The Netherlands
- Stefano Soatto, UCLA, USA
- Doris Tsao, California Institute of Technology, USA
- Andrea Vedaldi, University of Oxford, United Kingdom
- Rene Vidal, The Johns Hopkins University, USA
- Takeo Kanade, Carnegie Mellon University, USA
- Stéphane Mallat, École Normale Supérieure, France
- Matthew Zeiler, Clarifai, USA

The courses have covered both theoretical and practical aspects of real Computer Vision problems as well as examples of their successful commercialization.

Sicily, 19 July 2015

The School Directors

Prof. Sebastiano Battiato

Prof. Roberto Cipolla

Dr. Giovanni Maria Farinella

CERTIFICATE OF ATTENDANCE VISMAC 2016

This is to certify that:

Lorenzo Baraldi

attended the VISMAC International Summer School 2016 that was organized by GIRPR in Pordenone and Grado (Italy) from June 13th to June 17th, 2016. The student successfully fulfilled all requirements of the VISMAC International Summer School 2016 and passed the final exam (4 ETCS).



Date:
June 17th, 2016

Prof. Gian Luca Foresti
Chair

Prof. Christian Micheloni
Chair

Prof. Vito Roberto
Chair