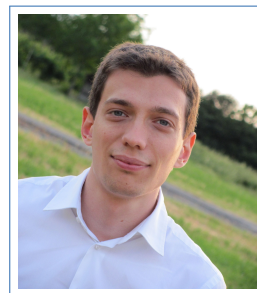


# Lorenzo Baraldi

## Curriculum Vitae

✉ [lorenzo.baraldi@unimore.it](mailto:lorenzo.baraldi@unimore.it)

🌐 [www.lorenzobaraldi.com](http://www.lorenzobaraldi.com)



### Education and Expertise

- 2018 - on going **Postdoctoral Fellow**, *AlmageLab, University of Modena and Reggio Emilia, Italy.*
- 2017 **Research Intern**, *Facebook Artificial Intelligence Research (FAIR), Paris.*  
Research topics: Temporal Video alignment, Video Classification, Event Detection  
Supervisors: Hervé Jégou and Matthijs Douze
- 2014–2018 **PhD “cum laude” in Computer Engineering**, *University of Modena and Reggio Emilia, Italy.*  
International Phd School in ICT  
Research topics: Multimedia technologies for video analysis, retrieval and description  
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
- 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

### Research activities

- October 2018 *Multimedia technologies for Cultural Heritage* – Machine learning architectures to enable a deeper understanding of cultural heritage (within the CultMedia project).  
- on going
- September 2016 - on going *Video Captioning, tagging and segmentation* – Research on Deep Learning architectures for video captioning, to automatically generate descriptions for broadcast and user-generated videos, visual-semantic embeddings [11].

- October 2016 *Saliency prediction* – Research on Deep Learning architectures for gaze prediction  
- on going on images [8, 20, 23].
- December 2014 *Temporal Video Segmentation and Retrieval* – Research on multimedia technologies  
- on going for video parsing and understanding. Development of algorithms for semantic temporal  
September video segmentation and for fine-grained search inside videos and the re-use of video  
2016 parts [13, 26–32] (within the Città Educante project).
- May - *Egocentric Vision and Gesture Recognition from wearable cameras* – Development  
December of state-of-the-art computer vision and pattern recognition techniques for hand  
2014 segmentation and gesture recognition in egocentric vision, suitable for low power  
wearable sensors [33–35].

## Partecipation to national projects

- October 2018 CultMedia, of the National Technological Cluster on Technologies for the Cultural  
- on going Heritage, cofunded by the Italian Ministry of Education, University and Research -  
MIUR
- September Città Educante (CTN01\_00034\_393801) of the National Technological Cluster on  
2016 - on Smart Communities cofunded by the Italian Ministry of Education, University and  
going Research - MIUR

## Conferences and tutorials attended

- 2018 14th Italian Research Conference on Digital Libraries - IRCDL, Udine
- 2017 International Conference on Computer Vision - ICCV, Venice  
International Workshop on Content-Based Multimedia Indexing - CBMI, Florence  
13th Italian Research Conference on Digital Libraries - IRCDL, Modena
- 2016 International Conference on Pattern Recognition - ICPR, Cancun (Mexico)  
ACM Multimedia - Amsterdam  
European Conference on Computer Vision - ECCV, Amsterdam  
International VISMAC Summer School - Grado  
ACM International Conference on Multimedia Retrieval - ICMR, New York  
12th Italian Research Conference on Digital Libraries - IRCDL, Firenze
- 2015 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

## Seminars attended

- 2017 Doctoral Consortium at ICCV 2017 - Mentor: Prof. Trevor Darrell
- 2016 “Hidden Markov Models and Selected Applications” – Prof. Jon Ander Gomez Adrian  
(UPV) – Modena, October 24-26

- “Faces, deep learning and the pursuit of training data” – Prof. Tal Hassner (Open University of Israel) – Modena, May 17
- 2015 “Computer Graphics and 3D Reconstruction” – Prof. Nadia Magnenat Thalmann (Director of the Institute for Media Innovation in Singapore) and Prof. Daniel Thalmann – Modena, September 24-26
- “Innovation, Inspiration and Vision” – Prof. Arnold Smeulders - Professor at the University of Amsterdam, Director of COMMIT, Founder of EuVision – Modena, June 15
- “A Vision for the Future of Computer Science & Engineering and Higher Education” – Dr. James C. Spohrer (Leader of IBM’s Cognitive Systems Institute Group) – Modena, June 8
- “Insights from Big Data: Interaction, Design and Innovation” – Dr. Alejandro Jaimes – Modena, April 16
- “Diffusion of Information in Social Media” – Prof. William Rand, University of Maryland – Modena, November 23-25
- “Academic English Workshop I” – Dott. Silvia Cavalieri – Modena, November 6-10
- “Academic English Workshop II” – Dott. Silvia Cavalieri – Modena, October 8-20
- 2014 “Introduction to Machine Learning and Online Learning” – Prof. Roberto Paredes – Modena, November 26-28
- “Active Contours in Image Processing and Computer Vision” – Prof. Anthony Yezzi – Modena, October 16
- “Second Short Spring School on Surveillance” – Modena, May 7-9
- “Egocentric Recognition of Objects and Activities” – Prof. James M. Rehg – Modena, April 30

## Grants

- 2017-2018 (Within the Imagelab group at Unimore) Italian Supercomputing Resource Allocation (ISCRA) Grant from CINECA, for accessing the Galileo HPC Platform.
- 2016 (Within the Imagelab group at Unimore) Facebook AI Partnership, with the donation of 8 NVIDIA Tesla P100 GPUs.
- (Within the Imagelab group at Unimore) NVIDIA Hardware Grant, with the donation of one Tesla K40 GPU
- (Within the Imagelab group at Unimore) Italian Supercomputing Resource Allocation (ISCRA) Grant from CINECA, for accessing the Galileo HPC Platform.

## Teaching activities

- 2018 Laboratory lecturer for the Computer Vision graduate course, Prof. Cucchiara, at University of Modena and Reggio Emilia
- Tutor for the Fundamentals of Computer Science I undergraduate course, at University of Modena and Reggio Emilia

- 2017 Laboratory lecturer for the Computer Vision graduate course, Prof. Cucchiara, at University of Modena and Reggio Emilia  
Tutor for the Fundamentals of Computer Science I undergraduate course, at University of Modena and Reggio Emilia
- 2016 Laboratory lecturer for the Computer Vision graduate course, Prof. Cucchiara, at University of Modena and Reggio Emilia  
Tutor for the Fundamentals of Computer Science I undergraduate course, at University of Modena and Reggio Emilia
- 2015 Laboratory lecturer for the Computer Vision graduate 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 undergraduate course, at University of Modena and Reggio Emilia  
Teaching assistant for the Machine Learning graduate course: three lectures on Deep Learning and Convolutional Neural Networks

#### Theses supervision

Jørgen Wilhelmsen, Bjørn Hoxmark (MSc), Norwegian University of Science and Technology - Active Learning for Visual-Semantic embeddings  
Matteo Stefanini (MSc) - Spectral Pooling Techniques for Sequence Classification  
Angelo Carraggi (MSc) - Visual and textual embeddings for cultural heritage applications  
Stefano Pini (MSc, currently research fellow) - Linking people and objects with their proper names in videos  
Gianluca Puglia (MSc) - Image and Video Captioning with Transferred Semantic Attributes  
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  
IEEE Transactions on Image Processing  
Computer Vision and Image Understanding  
Multimedia Tools and Applications  
IEEE Transactions on Human-Machine Systems

## Academic service

General Chair and Volume Editor for IRCDL 2017

Member of the Program Committee for ACM Multimedia 2017 (Multimedia Search and Recommendation and Conflict of Interest tracks)

Organizer and session chair for the Multimedia for Cultural Heritage special session at CBMI 2017

Member of the Program Committee for CCISP 2017

Reviewer for AVSS 2017

Reviewer for ICCV 2017

Reviewer for CVPR 2018

## Languages

Italian **Mothertongue**

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, Keras, PyTorch

## Publications

### Submitted journals and conference papers

- [1] Lorenzo Baraldi, Marcella Cornia, and Rita Cucchiara. "Aligning Text and Document Illustrations: towards Visually Explainable Digital Humanities". In: *Submitted to International Conference on Pattern Recognition*. 2018.
- [2] Federico Bolelli, Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. "A Hierarchical Quasi-Recurrent approach to Video Captioning". In: *Submitted to International Conference on Multimedia Retrieval*. 2018.
- [3] Michele Cancilla, Lorenzo Baraldi, Michele Cancilla, and Costantino Grana. "Connected Components Labeling on DRAGs". In: *Submitted to International Conference on Pattern Recognition*. 2018.
- [4] Marcella Cornia, Lorenzo Baraldi, Giuseppe Serra, and Rita Cucchiara. "Predicting Human Eye Fixations via an LSTM-based Saliency Attentive Model". In: *Submitted to IEEE Transactions on Image Processing* (2018).
- [5] Stefano Pini, Marcella Cornia, Federico Bolelli, Lorenzo Baraldi, and Rita Cucchiara. "M-VAD Names: a Dataset for Video Captioning with Naming". In: *Submitted to Multimedia Tools and Applications*. 2018.

## Journals

- [1] Federico Bolelli, Costantino Grana, Lorenzo Baraldi, and Michele Cancilla. "Towards Reliable Experiments on the Performance of Connected Components Labeling Algorithms". In: *Journal of Real-Time Image Processing* (2018).
- [2] Marcella Cornia, Lorenzo Baraldi, Giuseppe Serra, and Rita Cucchiara. "Paying more attention to saliency: Image captioning with saliency and context attention". In: *ACM Transactions on Multimedia Computing Communications and Applications* (2018).
- [3] Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. "Recognizing and Presenting the Storytelling Video Structure with Deep Multimodal Networks". In: *IEEE Transactions on Multimedia* (2017).
- [4] Baraldi Lorenzo, Paci Francesco, Serra Giuseppe, and Cucchiara Rita. "Gesture Recognition using Wearable Vision Sensors to Enhance Visitors' Museum Experiences". In: *IEEE Sensors Journal* (2015).

## Conferences

- [1] Lorenzo Baraldi, Matthijs Douze, Rita Cucchiara, and H erve J egou. "LAMV: Learning to align and match videos with kernelized temporal layers". In: *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2018.
- [2] Marcella Cornia, Stefano Pini, Lorenzo Baraldi, and Rita Cucchiara. "Automatic Image Cropping and Selection using Saliency: an Application to Historical Manuscripts". In: *14th Italian Research Conference On Digital Libraries*. 2018.
- [3] Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. "A Video Library System using Scene Detection and Automatic Tagging". In: *13th Italian Research Conference On Digital Libraries*. 2017.
- [4] Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. "Hierarchical Boundary-Aware Neural Encoder for Video Captioning". In: *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. 2017.
- [5] Lorenzo Baraldi, Costantino Grana, and Rita Cucchiara. "NeuralStory: an Interactive Multimedia System for Video Indexing and Re-use". In: *15th International Workshop on Content-Based Multimedia Indexing*. 2017.
- [6] Marcella Cornia, Davide Abati, Lorenzo Baraldi, Andrea Palazzi, Simone Calderara, and Rita Cucchiara. "Attentive Models in Vision: Computing Saliency Maps in the Deep Learning Era". In: *Conference of the Italian Association for Artificial Intelligence*. 2017.
- [7] Marcella Cornia, Lorenzo Baraldi, Giuseppe Serra, and Rita Cucchiara. "Visual Saliency for Image Captioning in New Multimedia Services". In: *IEEE International Conference on Multimedia and Expo Workshops*. 2017.
- [8] Stefano Pini, Olfa Ben Ahmed, Marcella Cornia, Lorenzo Baraldi, Rita Cucchiara, and Benoit Huet. "Modeling Multimodal Cues in a Deep Learning-based Framework for Emotion Recognition in the Wild". In: *19th ACM International Conference on Multimodal Interaction*. 2017.
- [9] Stefano Pini, Marcella Cornia, Lorenzo Baraldi, and Rita Cucchiara. "Towards Video Captioning with Naming: A Novel Dataset and a Multi-modal Approach". In: *International Conference on Image Analysis and Processing*. 2017.

- [10] Corbelli Andrea, Baraldi Lorenzo, Balducci Fabrizio, Grana Costantino, and Cucchiara Rita. "Layout analysis and content classification in digitized books". In: *Proceedings of the 12th Italian Research Conference on Digital Libraries*. 2016.
- [11] 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*. Dec. 2016.
- [12] 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*. Dec. 2016.
- [13] Marcella Cornia, Lorenzo Baraldi, Giuseppe Serra, and Rita Cucchiara. "Multi-level Net: A Visual Saliency Prediction Model". In: *European Conference on Computer Vision Workshops*. 2016.
- [14] Grana Costantino, Baraldi Lorenzo, and Bolelli Federico. "Optimized Connected Components Labeling with Pixel Prediction". In: *Advanced Concepts for Intelligent Vision Systems*. Vol. 10016. Cham, 2016.
- [15] Paci Francesco, Baraldi Lorenzo, Serra Giuseppe, Cucchiara Rita, and Benini Luca. "Context Change Detection for an Ultra-Low Power Low-Resolution Ego-Vision Imager". In: *Computer Vision – ECCV 2016 Workshops*. 2016.
- [16] Costantino Grana, Lorenzo Baraldi, and Roberto Vezzani. "YACCLAB - Yet Another Connected Components Labeling Benchmark". In: *Proceedings of the 23rd International Conference on Pattern Recognition*. Dec. 2016.
- [17] Baraldi Lorenzo, Grana Costantino, and Cucchiara Rita. "Analysis and Re-use of Videos in Educational Digital Libraries with Automatic Scene Detection". In: *Digital Libraries on the Move*. 2016.
- [18] Baraldi Lorenzo, Grana Costantino, and Cucchiara Rita. "Scene-driven Retrieval in Edited Videos using Aesthetic and Semantic Deep Features". In: *Proceedings of the 2016 ACM on International Conference on Multimedia Retrieval*. 2016.
- [19] Baraldi Lorenzo, Grana Costantino, Messina Alberto, and Cucchiara Rita. "A Browsing and Retrieval System for Broadcast Videos using Scene Detection and Automatic Annotation". In: *Proceedings of the 2016 ACM on Multimedia Conference*. ACM, 2016.
- [20] Baraldi Lorenzo, Grana Costantino, Borghi Guido, Vezzani Roberto, and Cucchiara Rita. "Shot, scene and keyframe ordering for interactive video re-use". In: *Proceedings of the 11th Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*. 2016.
- [21] Baraldi Lorenzo, Grana Costantino, and Cucchiara Rita. "A Deep Siamese Network for Scene Detection in Broadcast Videos". In: *Proceedings of the 23rd ACM international conference on Multimedia*. New York: ACM, 2015.
- [22] Baraldi Lorenzo, Grana Costantino, and Cucchiara Rita. "Measuring scene detection performance". In: *Pattern Recognition and Image Analysis*. 2015.
- [23] Baraldi Lorenzo, Grana Costantino, and Cucchiara Rita. "Scene segmentation using temporal clustering for accessing and re-using broadcast video". In: *IEEE International Conference on Multimedia and Expo*. 2015.

- [24] Baraldi Lorenzo, Grana Costantino, and Cucchiara Rita. "Shot and Scene Detection via Hierarchical Clustering for Re-using Broadcast Video". In: *Computer Analysis of Images and Patterns*. 2015.
- [25] Baraldi Lorenzo, Paci Francesco, Serra Giuseppe, Benini Luca, and Cucchiara Rita. "Gesture Recognition in Ego-Centric Videos using Dense Trajectories and Hand Segmentation". In: *Computer Vision and Pattern Recognition Workshops (CVPRW), 2014 IEEE Conference on*. 2014.
- [26] Giuseppe Serra, Marco Camurri, Lorenzo Baraldi, Michela Benedetti, and Rita Cucchiara. "Hand Segmentation for Gesture Recognition in EGO-Vision". In: *Proceedings of the 3rd ACM international workshop on Interactive multimedia on mobile and portable devices*. 2013.





**Name:** Lorenzo Baraldi

### **Position Details**

- Title: Research Intern
- Host: Matthijs Douze
- Start Date: June 26<sup>th</sup> 2017
- End Date: Oct. 13<sup>th</sup> 2017
- Term length: 4 Months
- Location: Paris
- Team: Facebook AI Research

### **Job Description**

Research Interns will perform research to advance the science and technology of intelligent machines. They will also conduct research that enables learning the semantics of data (images, video, text, audio, and other modalities). During their time at Facebook, Research Interns will devise better data-driven models of human behavior, and work toward long-term ambitious research goals. These students will influence progress of relevant communities by producing publications.

This is an ongoing project that will aim to evaluate, improve and create different conversational deep learning models. The Research Intern will be expected to deliver a fully usable prototype that can be released externally, though not a full Facebook scale. This will impact the company as a whole by improving our conversational models will enable new features in many products of the Facebook family.

### **Requirements**

- Pursuing a degree (Ph.D., Masters, or Bachelors with relevant experience) in Machine Learning, AI, Computer Science, Statistics, Applied Mathematics, Data Science, or related technical fields
- Extensive experience solving analytical problems and using quantitative approaches
- Comfort manipulating and analyzing complex data, high-volume, high-dimensionality data from varying sources
- A strong passion for theoretical and empirical research and for answering hard questions with research
- Ability to communicate complex research in a clear, precise, and actionable manner
- Fluency in some programming language



To whom it may concern,

Therewith we would like to apply for a donation of one or two GPU servers for Imagelab research lab of University of Modena and Reggio Emilia (UNIMORE), Italy for a research activity with title

"Structured Deep Networks for video understanding"

Imagelab is devoted to define new deep learning architectures for tackling two main problems in computer vision:

- a) Video annotation and semantic concept extraction on edited broadcasting videos (in cooperation with RAI)
- b) Temporal saliency in videos for context and actions understanding in surveillance, video broadcasting and automotive

To this end, we are studying and testing innovative deep learning architectures by means of structured predictors and focusing on temporal data. At a glance, our research lines can be summarized as following:

#### Video annotation and semantic concept extraction

One of the main goal of our research is to develop and test new Deep Learning algorithms for Temporal Video Segmentation and Concept Detection in videos. We developed a new approach to Temporal Video Segmentation which was able to beat all existing approaches on benchmark datasets, and which relies on a multimodal Deep Neural Network that combines static appearance, features from the video transcript, and concept detection in a metric learning fashion. The core of the algorithm is a concept detection strategy which can analyse the video transcript and build classifiers for relevant concepts "on the fly", exploiting the Imagenet database. Our research in the next months will include a complete refinement of this approach, as well as the development of new algorithms for concept detection and one shot learning in videos. We also plan to perform theoretical studies on Convolutional Neural Networks and Recurrent Neural Networks for structured prediction. Training and fine-tuning of these architectures will be performed on large-scale video and image datasets (like YFCC-100M, SPORTS-1M, ILSVRC-2012), thus requiring adequate computational capacities.

#### Temporal saliency in videos for context and actions understanding

One line of research consists in transferring the current results on pixel level segmentation to salient objects. This is indeed a well defined task for images but still understudied in videos. Saliency is undoubtedly influenced by both the observer task and temporal coherence. The underlying idea of our research is to exploit 3D CNN to account for temporal features and, at the same time, to add a structured predictor CRF to the Deep NN in order to account for objectness and semantics. We aim at testing on recent dataset for both autonomous driving application, by this end we recently release a driver fixations dataset, and on recent video activity datasets like the "Action in the eye" dataset. In the current research panorama we believe this is an interesting line of research with multiple applications ranging from comprehending the mechanism behind attention and actions to providing summaries of videos by means of interesting objects alone and their activities.

A relevant scientific impact is expected, both in international computer vision and multimedia conferences and in top class journals, like IEEE Transactions on PAMI, IJCV, Pattern Recognition, CVPR, ICCV, ACM Multimedia, NIPS, ICLR.

#### Contacts and required details

- Primary liaison for the institution: Prof. Rita Cucchiara, Director of Imagelab and Softech-ICT
- Primary IT contact: Prof. Costantino Grana, Imagelab, Softech-ICT.
- Other IT contacts: Dr. Simone Calderara (Assistant Professor), Ing. Lorenzo Baraldi, Ing. Stefano Alletto, Ing. Francesco Solera (PhD Students).
- Number of researchers conducting AI or machine learning research: Softech-ICT is an interdepartmental research centre, composed by more than 50 researchers. About 40% of them are working in machine learning and AI applied to computer vision, pattern recognition, big data and complex systems. Among them, the ImageLab research group ([www.imagelab.unimore.it](http://www.imagelab.unimore.it)) is composed by five staff people and about 12 researchers (8 PhD students and post docs) working on deep learning and machine learning for computer vision and video analysis.
- Number of GPU servers the institution currently has at its disposal: a GPU server with one Nvidia K40, donated by NVIDIA.



Lorenzo Baraldi &lt;baraldi.lorenzo@gmail.com&gt;

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## Congratulations! Facebook AI Research Partnership

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**Katherine Nicholson** <knicholson@fb.com>

Tue, Aug 2, 2016 at 2:14 PM

To: "lorenzo.baraldi@unimore.it" &lt;lorenzo.baraldi@unimore.it&gt;

Cc: Ari Entin &lt;arientin@fb.com&gt;, Sara Ranzini &lt;saranzini@fb.com&gt;

Dear Professor Baraldi,

It is my pleasure to inform you that Facebook has selected the University of Modena and Reggio Emilia to receive GPU-based servers as part of the Facebook AI Research Partnership. Your application was selected from a large pool of universities and research institutes working on important and innovative research. Facebook is committed to building strong research partnerships with institutions throughout Europe, and ensuring that our partners have the necessary hardware and tools to continue tackling some of the most important challenges in the disciplines of artificial intelligence and machine learning. We hope that you will use this gift to further your work, and most importantly, to share the outcomes with the broader research community.

We anticipate global media interest in this program and your work. As such, we intend to announce all recipients in one announcement sometime in August. We would like to collaborate on this communications program to highlight your research and this new partnership with Facebook. My colleague in communications, Ari Entin, is copied here and is leading this effort. He will follow up to work with you on how best to proceed.

**Next steps:** To receive your servers, please provide us with the name and email address of an IT contact who can work with us to understand your needs. We will follow up with information on several options and work with your IT contact to ensure delivery.

Please respond with the requested information and any other questions.

Congratulations and best regards,

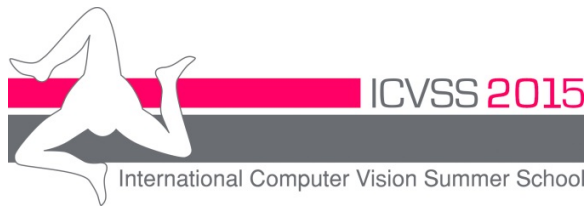
Katherine

**Katherine Nicholson | facebook**

Academic Relations 1 Hacker Way | Menlo Park, CA | 94025

p: [831-566-3084](tel:831-566-3084)

e: [knicholson@fb.com](mailto:knicholson@fb.com)



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 13<sup>th</sup> to June 17<sup>th</sup>, 2016. The student successfully fulfilled all requirements of the VISMAC International Summer School 2016 and passed the final exam (4 ECTS).



Date:  
June 17<sup>th</sup>, 2016

Prof. Gian Luca Foresti  
Chair

Prof. Christian Micheloni  
Chair

Prof. Vito Roberto  
Chair





# UNIVERSITY of CAMBRIDGE

## ESOL Examinations

### English for Speakers of Other Languages

#### Level 1 Certificate in English (ESOL)\*

This is to certify that

**LORENZO BARALDI**

has been awarded

**Grade B**

in the

**First Certificate in English**

**Council of Europe Level B2**

Date of Examination **MARCH 2008**

Place of Entry **MODENA**

Reference Number **0831T0250094**

Accreditation Number **100/2032/9**

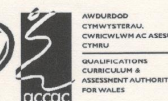
This level refers to the UK National Qualifications Framework

*M. Milanovic*

**Michael Milanovic**  
Chief Executive



Qualifications and  
Curriculum Authority



Date of Issue **06/05/08**

Certificate Number **0020333176**