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|------------------------|--|--------------------------|
| <b>Education</b>       | <b>Ph.D.</b> , Computer Vision, U. of Florence, Italy  | <b>1/2011 - 3/2014</b>   |
|                        | <b>M.Sc. Degree</b> , Computer Engineering, U. of Florence, Italy ( <i>cum laude</i> )   | <b>4/2006 - 7/2009</b>   |
|                        | <b>B.Sc. Degree</b> , Computer Engineering, U. of Florence, Italy  | <b>9/2002 - 4/2006</b>   |
| <b>Work Experience</b> | <b>Research Computer Scientist</b>   | <b>05/2018 - now</b>     |
|                        | <i>USC Information Sciences Institute, Marina Del Rey, CA</i>  |                          |
|                        | <ul style="list-style-type: none"> <li>Developing novel algorithms in computer vision for anti spoofing and face inpainting including (i) Face Occlusion Detection (ii) Generative Face Completion (iii) Presentation Attack Detection.</li> <li>Area Chair for Computer Vision Conferences such as WACV and Associate Editor in journals such as “The Visual Computer - International Journal of Computer Graphics”.</li> <li>Managing research programmers and PhD Students in Computer Vision.</li> <li>Working on the IARPA ODIN project for next-generation anti spoofing technology.</li> </ul>  |                          |
|                        | <b>Postdoctoral Scholar - Research Associate</b>   | <b>11/2014 - 04/2018</b> |
|                        | <i>U. of Southern California (USC), Los Angeles, CA</i>  |                          |
|                        | <ul style="list-style-type: none"> <li>Developed novel algorithms in computer vision for person recognition in the wild including (i) Face Recognition in the Wild (ii) Person Re-identification, and (iii) 3D Face Modeling.</li> <li>Published in top-tier venues in computer science such as CVPR (see <a href="https://goo.gl/s2nkut">https://goo.gl/s2nkut</a>), ECCV, TPAMI (impact factor 8.329) and IJCV (impact factor 11.541).</li> <li>Worked on the IARPA JANUS project for next-generation facial recognition software that will radically expand the range of conditions under which automated software can correctly establish identity.</li> <li>Presented research work at international conferences such as ECCV, CVPR, AFGR, BTAS.</li> </ul>   |                          |
|                        | <b>Postdoctoral Researcher</b>   | <b>04/2014 - 10/2014</b> |
|                        | <i>Media Integration and Communication Center (MICC), U. of Florence, Italy</i>  |                          |
|                        | Worked on Person Re-identification and Pose Independent Face Recognition research projects supported by Thales Italia S.p.a.   |                          |
|                        | <b>Visiting Scholar</b>  | <b>8/2012 - 2/2013</b>   |
|                        | <i>U. of Southern California (USC), Los Angeles, CA</i>  |                          |
|                        | Addressed the problem of pose-invariant face recognition. By rectifying a profile face to a frontal view using a 3D face model, the performance of state-of-the-art face recognition modules was drastically improved compared to using a standard 2D similarity.  |                          |
|                        | <b>Ph.D. Candidate</b>   | <b>1/2011 - 3/2014</b>   |
|                        | <i>Media Integration and Communication Center (MICC), U. of Florence, Italy</i>  |                          |
|                        | <ul style="list-style-type: none"> <li>Continued to develop a multi-person tracker with a single moving camera. The approach is able to extract world coordinate trajectories (similar to GPS) of people from a single PTZ (Pan-Tilt-Zoom) sensor.</li> <li>Implemented a system to benchmark multi-person tracker algorithms based on the CLEAR-MOT metrics, that has been recognized in the literature as one of the main available implementations on the web for performance evaluation.</li> <li>Designed and collected a hybrid 2D/3D face dataset for benchmarking face recognition systems.</li> <li>Conceived and implemented a method to perform person re-identification that achieved the best performance in recognition rate and speed among published state-of-the-art approaches in 2012.</li> <li>Participated in a technology transfer project with Thales Italia to develop state-of-the-art, active camera surveillance systems.</li> <li>Managed a technology transfer project with the company CulturaNuova s.r.l. to develop an easy-to-use C# API and a C++ library to generate high resolution panoramas from imagery of frescoes acquired with a robotic arm.</li> </ul> |                          |
|                        | <b>Research Engineer</b>   | <b>11/2009 - 11/2010</b> |
|                        | <i>Media Integration and Communication Center (MICC), U. of Florence, Italy</i>  |                          |

- Developed an algorithm in C++ that localizes a wheeled mobile robot observed from multiple ceiling cameras in real-time and drives it over a path in large environments with a pure pursuit controller. The system achieves less than 5 pixels on cross track error. Transfer project for Zucchetti Centro Sistemi S.p.a.
- Developed a method to calibrate a PTZ camera in real-time in order to support multi-target tracking approaches. The prototype was presented as Very Important Demo at Thales France - Technoday 2011 in Paris to the Thales CEO.

### Software Engineer

3/2007 - 7/2007

*AirSport S.r.l. and the LaRT (networked system lab), U. of Florence, Italy*

Developed a Network Management System (AirNMS) for MeshAP networks with frontend and backend. The frontend was coded using python and wxPython, building a plugin system using design patterns to easily add new features to the client. The backend was coded on an ARM board using lighttpd+PHP with an ad-hoc XML protocol.

### Webmaster

10/2005 - 11/2014

*Many Companies*

Webmaster for websites using technologies such as Apache, PHP, MySql, Wordpress, Joomla and JQuery.

### Awards

#### “Abilitazione Scientifica Nazionale” Award

07/2018

Awarded the Italian habilitation as an Associate Professor (Professore di Seconda Fascia) in Computer Science (01/B1 - Informatica ) and Computer Engineering (09/H1 - Sistemi di Elaborazione delle Informazioni) .

#### USC Stevens Center for Innovation - Commercialization Award

04/2018

Invention disclosure as a co-inventor with the USC Stevens Center for Face Recognition Software.

#### Best Paper Runner up Award

10/2017

Best Paper Runner up “FacePoseNet: Making a Case for Landmark-Free Face Alignment” at IEEE Workshop on Analysis and Modeling of Faces and Gestures (AMFG) at ICCV Workshops 2017.

#### Certificate of Appreciation

9/2015

Released by the General Chairs at BTAS 2015 for the tutorial presented.

#### NVIDIA Award

9/2015

Grant awarded by NVIDIA: received an NVIDIA Titan X to perform research on deep-learning.

#### Winner of “USC Travel Award 2015”

6/2015

USC Postdoctoral Travel Award. More info: <https://uscpostdochub.usc.edu/recipients/>

#### Very Important Demo at Thales Technoday

1/2011

Showcase of a method to track multiple targets simultaneously using a single PTZ camera.

#### Certificate of Excellence

10/2010

Award for technical support at ACM Multimedia 2010, Florence.

#### Winner of “Renato Mariani Award 2010”

3/2010

Awarded best student in computer engineering by AEIT (Italian Federation of Electrical Engineering, Automation and Computer Science).

### Services to Associate Editor at “The Visual Computer”

11/2018 - now

Community Associate Editor at “Springer - The Visual Computer - International Journal on Computer Graphics”.

#### Area Chair for WACV’19

10/2018

Participated in the committee of WACV’19 (IEEE Winter Conference on Applications of Computer Vision) as Area Chair (Meta-Reviewer). More details: <http://wacv19.wacv.net/people/>

#### Invited Tutorial at SIBGRAP’18

10/2018

Tutorial on “Deep Face Recognition” at SIBGRAP’18 (31st Conference on Graphics, Patterns and Images).

#### Workshop Chair for SIBGRAP’18

04/2018

Participated in the committee of SIBGRAPI'18 (31st Conference on Graphics, Patterns and Images) as Workshop Chair. More details: <http://www.imago.ufpr.br/sibgrapi2018/people.php#people>

**Invited Talk at Caltech** **01/2018**  
Talk on face recognition at the Computational Vision Laboratory directed by Prof. Pietro Perona.

**Area Chair for WACV'18** **12/2017**  
Participated in the committee of WACV'18 (IEEE Winter Conference on Applications of Computer Vision) as Area Chair (Meta-Reviewer). More details: <http://wacv18.uccs.us/people/>

**International Workshop Chair** **10/2017**  
Co-organizer of the International Workshop on Cross-domain Human Identification (CHI), at ICCV'17 with Giuseppe Lisanti, Tal Hassner and Shaogang Gong. More details: <http://chi-workshop.github.io>

**Invited Talk at NEC Labs** **06/2017**  
Talk on face recognition and 3D face modeling at NEC Labs directed by Manmohan Chandraker.

**Tutorial on Person Re-identification: Theory and Best Practice** **9/2015**  
Presented a tutorial at the International Conference on Biometrics 2015 (BTAS) to spread and disseminate new ways of identifying people in the wild. More details: <http://micc.unifi.it/reid-tutorial/>

**Web Chair** **10/2013 - 6/2014**  
Setup and managed the website for the “Long-Term Detection and Tracking” Workshop to be held during CVPR'14. More details: <http://www.micc.unifi.it/LTDT2014/>

**Reviewer for International Journals and Conferences** **1/2010 - now**  
TPAMI, IJCV, CVPR'19, TIP, CVPR16, ECCV16, ACM Multimedia, ECCV14, ICPR12, BMVC, PAAA, IJCB.

**Publications** (\* indicates equal contribution)

**Journals**

- I. Masi, F. Chang, J. Choi, S. Harel, J. Kim, K. Kim, J. Leksut, S. Rawls, Y. Wu, T. Hassner, W. AbdAlmageed, G. Medioni, L.P. Morency, P. Natarajan, R. Nevatia, “Learning Pose-Aware Models for Pose-Invariant Face Recognition in the Wild”, *IEEE Transaction on Pattern Analysis and Machine Intelligence (TPAMI)*, 2018.
- G. Lisanti, S. Karaman, I. Masi, “Multi Channel-Kernel Canonical Correlation Analysis for Cross-View Person Re-Identification”, *ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM)*, 2017.
- G. Lisanti, I. Masi, F. Pernici, A. Del Bimbo, “Continuous Localization and Mapping of a Pan Tilt Zoom Camera for Wide Area Tracking”, *Machine Vision and Applications (MVA)*, 2016.
- G. Lisanti, I. Masi, A. D. Bagdanov, A. Del Bimbo, “Person Re-identification by Iterative Re-weighted Sparse Ranking”, *IEEE Transaction on Pattern Analysis and Machine Intelligence (TPAMI)*, 2015.
- A. D. Bagdanov, A. Del Bimbo, F. Dini, G. Lisanti and I. Masi, “Posterity Logging of Face Imagery for Video Surveillance” in *IEEE Multimedia*, October 2012.

#### International Conferences, Workshops and Demos

- I. Masi, Y. Wu, T. Hassner, P. Natarajan, “Deep Face Recognition: a Survey”, in *Proc. of Conference on Graphics, Patterns and Images (SIBGRAPI)*, Parana, Brazil, 2018.
- A. Tran, T. Hassner, I. Masi, E. Paz, Y. Nirkin, G. Medioni, “Extreme 3D Face Reconstruction: Seeing Through Occlusions”, in *Proc. of Computer Vision and Pattern Recognition (CVPR)*, Salt Lake City, USA, 2018.
- K. Kim, Z. Yang, I. Masi, R. Nevatia, G. Medioni, “Face and Body Association for Video-based Face Recognition”, in *Proc. of Winter Conference on Applications of Computer Vision (WACV)*, USA 2018.
- F. Chang, A. Tran, T. Hassner, I. Masi, R. Nevatia, G. Medioni, “ExpNet: Landmark-Free, Deep, 3D Facial Expressions”, *International Conference on Automatic Face and Gesture Recognition (FG)*, China, 2018.

- Y. Nirkin, I. Masi, A. Tran, T. Hassner, G. Medioni, “On Face Segmentation, Face Swapping, and Face Perception”, *International Conference on Automatic Face and Gesture Recognition (FG)*, China, 2018
- F. Chang, A. Tran, T. Hassner, I. Masi, R. Nevatia, G. Medioni, “FacePoseNet: Making a Case for Landmark-Free Face Alignment”, *Analysis and Modeling of Faces and Gestures Workshop (ICCV Workshops)* Venice, Italy, 2017
- A. Tran, T. Hassner, I. Masi, G. Medioni, “Regressing Robust and Discriminative 3D Morphable Models with a very Deep Neural Network”, in *Proc. of Computer Vision and Pattern Recognition (CVPR)*, Hawaii, USA, 2017.
- I. Masi, T. Hassner, A. Tran, G. Medioni, “Rapid Synthesis of Massive Face Sets for Improved Face Recognition”, *International Conference on Automatic Face and Gesture Recognition (FG)*, USA, 2017
- I. Masi\*, A. Tran\*, T. Hassner\*, J. Leksut, G. Medioni, “Do We Really Need to Collect Millions of Faces for Effective Face Recognition?”, in *Proc. of European Conference on Computer Vision (ECCV)*, Amsterdam 2016.
- T. Hassner, I. Masi, J. Kim, J. Choi, S. Harel, P. Natarajan, G. Medioni, “Pooling Faces: Template based Face Recognition with Pooled Face Images”, in *Workshop on Biometrics (CVPR Workshops)*, USA 2016.
- W. AbdAlmageed\*, Y. Wu\*, S. Rawls\*, S. Harel, T. Hassner, I. Masi, J. Choi, J. Leksut, J. Kim, P. Natarajan, R. Nevatia, G. Medioni, “Face Recognition Using Deep Multi-Pose Representations”, in *Proc. of Winter Conference on Applications of Computer Vision (WACV)*, USA 2016.
- I. Masi, S. Rawls, G. Medioni, P. Natarajan “Pose-Aware Face Recognition in the Wild”, in *Proc. of Computer Vision and Pattern Recognition (CVPR)*, Las Vegas, USA, 2016.
- G. Lisanti, I. Masi, A. Del Bimbo, “Matching People across Camera Views using Kernel Canonical Correlation Analysis”, in *Proc. of International Conference on Distributed Smart Cameras (ICDSC)*, Venice, Italy, 2014.
- I. Masi, C. Ferrari, A. Del Bimbo, G. Medioni, “Pose Independent Face Recognition by Localizing Local Binary Patterns via Deformation Components”, in *Proc. of International Conference on Pattern Recognition (ICPR)*, Stockholm, Sweden, 2014.
- P. Salvagnini, F. Pernici, M. Cristani, G. Lisanti, I. Masi, A. Del Bimbo and V. Murino, “Information Theoretic Sensor Management for Multi-Target Tracking with a Single Pan-Tilt-Zoom Camera” in *IEEE Winter Applications of Computer Vision Conference (WACV)*, Steamboat Springs, USA, 2014.
- I. Masi, G. Lisanti, A. D. Bagdanov, P. Pala and A. Del Bimbo, “Using 3D Models to Recognize 2D Faces in the Wild”, in *International Workshop on Socially Intelligent Surveillance and Monitoring (CVPR Workshops)*, Portland, USA, 2013.
- D. Di Fina, A. D. Bagdanov, G. Lisanti, I. Masi, S. Karaman and A. Del Bimbo, “Multi-Target Data Association using Sparse Reconstruction” in *Proc. of International Conference on Image Analysis and Processing (ICIAP)*, Naples, Italy, 2013.
- A. D. Bagdanov, A. Del Bimbo and I. Masi, “Florence faces: a dataset supporting 2D/3D face recognition” in *Proc. of IEEE International Symposium on Communications, Control and Signal Processing*, Roma, Italy, 2012.
- A. D. Bagdanov, A. Del Bimbo, G. Lisanti and I. Masi, “Multi-pose Face Detection for Accurate Face Logging” in *Proc. of International Conference on Pattern Recognition (ICPR)*, Tsukuba Science City, Japan, 2012.
- A. Del Bimbo, G. Lisanti, I. Masi and F. Pernici, “Continuous Recovery for Real Time Pan Tilt Zoom Localization and Mapping” in *Proc. of International Conference on Advanced Video and Signal based Surveillance (AVSS)*, Klagenfurt, Austria, 2011.
- A. D. Bagdanov, A. Del Bimbo and I. Masi, “The Florence 2D/3D Hybrid Face Dataset” in *Proc. of Joint ACM Workshop on Human Gesture and Behavior Understanding (J-HGBU11) ACM Multimedia Workshop*, Arizona, USA, 2011.
- A. Del Bimbo, F. Dini, G. Lisanti, I. Masi and F. Pernici, “3D Multiple Target Tracking and Face Pose Estimation with a Rotating and Zooming Camera” in *European Conference on Computer Vision, Demo Session*, Heraklion, Crete, 2010.
- A. Del Bimbo, G. Lisanti, I. Masi and F. Pernici “Device-Tagged Feature-based Localization and Mapping of Wide Areas with a PTZ Camera” in *Proc. of International Workshop on Socially Intelligent Surveillance and Monitoring (CVPR Workshops)*, San Francisco, USA, 2010.

- A. Del Bimbo, G. Lisanti, I. Masi and F. Pernici, “Person Detection using Temporal and Geometric Context with a Pan Tilt Zoom Camera” in *Proc. of International Conference on Pattern Recognition (ICPR)*, Istanbul, Turkey, 2010.

## In Submission

- Y. Nirkin, I. Masi, A. Tran, T. Hassner, G. Medioni, “Face Segmentation, Face Swapping, and how they Impact Face Recognition, Book Chapter, in “*Deep Learning-based Face Analytics*” being published by Cambridge University Press.
- I. Masi, A. Tran, T. Hassner, G. Sahin, G. Medioni, “Face-Specific Data Augmentation for Unconstrained Face Recognition”, *under minor revision* at the *International Journal of Computer Vision (IJCV)*.
- F. Chang, A. Tran, T. Hassner, I. Masi, R. Nevatia, G. Medioni, “Deep, Landmark-Free FAME: Face Alignment, Modeling, and Expression Estimation”, *under minor revision* at the *International Journal of Computer Vision (IJCV)*.
- A Jaiswal, Y. Wu, W AbdAlmageed, I. Masi, P. Natarajan, “AIR: Adversarial Learning Framework for Image Repurposing Detection”, *in submission to a top-tier computer vision conference*.
- J. Mathai\*, I. Masi\*, W. AbdAlmageed, “Does Generative Face Completion help Face Recognition?”, *in submission to a top-tier biometrics conference*.
- A. Jaiswal, S. Xia, I. Masi, W. AbdAlmageed, “RoPAD: Robust Presentation Attack Detection through Unsupervised Adversarial Invariance”, *in submission to a top-tier biometrics conference*.

Bibliometric indices are the following:  $H$ -index = 13. Total number of citations = 901 (source: Google Scholar on 2018/12).  $H$ -index = 11. Total number of citations = 502 (source: Scopus on 2018/12).

## Skills

- **Operating Systems:** Linux (*preferred*), Mac OS X, Windows.
- **Programming Languages:** *Familiar:* MATLAB *Basic:* Python, Bash, C/C++, Java, Javascript.
- **Frameworks and Tools:** *Basic:* RunJobs Framework for cluster of machines (USC ISI), hg (Mercurial)/git, Emacs/Vim, Numpy, UML and Design Patterns, Caffé and Apache MxNet (Deep Learning). *Familiar:* CMake, SVN, JQuery, GCC+Makefile, Visual Studio, Eclipse-based editors, mexOpenCV, OpenCV, scikit-learn,  $\text{\LaTeX}$ ,  $\text{\LaTeX}$ -Beamer, Wordpress, MATLAB;
- **Languages:** Italian *Native Speaker*, English *Fluent*

## Web References

- CLEAR-MOT (GitHub): <https://github.com/glisanti/CLEAR-MOT/>
- KCCA-Reid (GitHub): <https://github.com/glisanti/KCCAReId>
- MCK-CCA (GitHub): <https://github.com/glisanti/MCK-CCA>
- Pose-Aware Models for Face Recognition: <http://goo.gl/forms/NK6adyd7DFJhlmHG2>
- 3DMM Made Easy with a DCNN (GitHub): [https://github.com/anhtrtran/3dmm\\_cnn](https://github.com/anhtrtran/3dmm_cnn)
- Face Rendering (GitHub): [https://github.com/iacopomasi/face\\_specific\\_augm](https://github.com/iacopomasi/face_specific_augm)

## Interests

Ubuntu Linux community, SSI OpenWater scuba diver, AI, basketball, bodybuilding, philosophy