

Francesco Setti

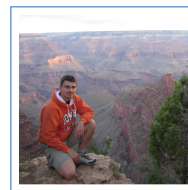
curriculum vitae

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Francesco Setti is currently a Post-Doc Research Fellow at the Laboratory for Applied Ontology (LOA) of the Institute of Cognitive Science and Technologies (ISTC) of the Italian National Research Council (CNR) in Trento. He is working for the VISCOso project, funded by the Autonomous Province of Trento through the Team 2011 funding programme. Previously he was a Post-Doc Research Fellow, running the individual PAT-EU Cofund Marie Curie Action project ABILE at the Measurement Instrumentation and Robotics Group of the University of Trento.

He has a strong background in Computer Vision and Mechatronics; he graduated in Mechatronics Engineering at the University of Trento and he took the PhD in Mechanical Measurement Science at the University of Padua. During his career he spent 3 months at Instituto Superior Tecnico in Lisbon working with Dr. Alessio Del Bue, and 1 year at Queen Mary University of London under the supervision of Prof. Lourdes de Agapito. He is co-author of 16 papers in international peer-reviewed conferences and 5 journal papers. He has been in the Organizing Committee of CONTACT workshop @ECCV2014 and in the Program Committee of GROW workshop @CVPR2015. He also serves as reviewer for top ranked journals and conferences like Neurocomputing, Pattern Recognition Letters and ACM Multimedia.

He is co-founder of two start-up companies: one working on robotics and mechatronics (Robosense S.r.l.) and the second on high-tech instrumentations for sports and fitness (Libon S.r.l.).

Research Interests

Currently, his main research focus is on integrating knowledge representation techniques and ontologies with computer vision and statistical pattern recognition methods. In details, he focuses on three main topics:

Social Signal Processing: find groups of interacting people from still images by exploiting the sociological concept of F-formation and its formal definition

Ontology-driven Image Retrieval: automatically generate image sets of specific classes by exploiting internet image search engines and lexical databases (specifically for automatic generation of training sets for object detectors)

Spectators Crowd Analysis: analyse the behaviour of a particular kind of crowd characterized by people who stands for most of the time and shares a common focus of attention (spectators of an entertainment event)

Higher Education

2007–2010 **PhD**, *University of Padua*, Padua – Italy, *Ph.D. in Science, Technologies and Measures for Space*.

Thesis: *Methods and applications of sensor fusion for mechatronic systems*

2005–2006 **MS**, *University of Trento*, Trento – Italy, *Laurea Magistrale in Mechatronic Engineering*.

Thesis: *Progettazione e sviluppo di un sistema basato su telecamera per la misura di posizione ed assetto relativi* (italian)

2001–2005 **BA**, *University of Trento*, Trento – Italy, *Laurea Triennale in Industrial Engineering*.

Thesis: *Analisi e simulazione del comportamento di un sistema ABS basato su controllore Sliding Mode* (italian)

Research Experience

- June 2015 – present **Post-Doc Research Fellow**, *University of Verona*, Verona – Italy.
Research activity on Object recognition and behaviour modeling based on statistical pattern recognition and formal ontologies.
- September 2012 – May 2015 **Post-Doc Research Fellow**, *Italian National Research Council (CNR)*, Trento – Italy.
2015 Research activity on integrating Knowledge Representation and Ontologies into Computer Vision and Pattern Recognition techniques – project **VisCoSo**
Research activity on behaviour analysis of spectators crowds – project **OZ**
- July 2011 – **Post-Doc Research Fellow**, *University of Trento*, Trento – Italy.
June 2012 Research activity on automatic modeling of human body from multiple view video captured data (MoCap) – project **ABILE**
- July 2010 – **Post-Doc Research Fellow**, *Queen Mary, University of London*, London – UK.
June 2011 Research activity on automatic modeling of human body from multiple view video captured data (MoCap) – project **ABILE**
- April 2010 – **Post-Doc Research Fellow**, *University of Trento*, Trento–Italy.
June 2010 Research activity: realization of a computer vision based system for 3D reconstruction and segmentation of human body – project **VERITAS**
- June – September 2009 **Visiting Ph.D. student**, *Instituto Superior Tecnico, Universidade Tecnica de Lisboa*, Lisbon–Portugal.
2009 Research activity: 3D points cloud registration and articulated motion segmentation

Languages

Italian Native speaker
English Fluent

Computer skills

Operative Systems Windows, Mac OS, Linux, Android
Programming Languages Matlab, C/C++, Processing, \LaTeX , LabView, HTML

Publications

Journal Papers

- [J5] N. Biasi, **F. Setti**, A. Del Bue, M. Tavernini, M. Lunardelli, A. Fornaser, M. Da Lio, and M. De Cecco. “Garment-Based Motion Capture (GaMoCap): high density capture of human shape in motion”. In: *Machine Vision and Applications* (In print).
- [J4] **F. Setti**, C. Russell, C. Bassetti, and M. Cristani. “F-formation Detection: Individuating Free-standing Conversational Groups in Images”. In: *PLOS ONE* (In print).
- [J3] D. S. Cheng, **F. Setti**, N. Zeni, R. Ferrario, and M. Cristani. “Semantically-driven automatic creation of training sets for object recognition”. In: *Computer Vision and Image Understanding* 131 (2015). Special section: Large Scale Data-Driven Evaluation in Computer Vision, pp. 56–71. DOI: 10.1016/j.cviu.2014.07.005.
- [J2] **F. Setti**, R. Bini, M. Lunardelli, P. Bosetti, S. Bruschi, and M. De Cecco. “Shape measurement system for single point incremental forming (SPIF) manufactures by using trinocular vision and random pattern”. In: *Measurement Science and Technology* 23.11 (Oct. 2012), p. 115402. DOI: 10.1088/0957-0233/23/11/115402.
- [J1] M. De Cecco, M. Pertile, L. Baglivo, M. Lunardelli, **F. Setti**, and M. Tavernini. “A Unified Framework for Uncertainty, Compatibility Analysis, and Data Fusion for Multi-Stereo 3-D Shape Estimation”. In: *IEEE Transactions on Instrumentation and Measurement* 59.11 (Nov. 2010), pp. 2834–2842. DOI: 10.1109/TIM.2010.2060930.

Conference Papers

- [C16] D. Conigliaro, P. Rota, **F. Setti**, C. Bassetti, N. Conci, N. Sebe, and M. Cristani. “The S-Hock Dataset: Analyzing Crowds at the Stadium”. In: *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*. 2015.
- [C15] **F. Setti** and M. Cristani. “The GRODE Metrics: Exploring the Performance of Group Detection Approaches”. In: *GROW workshop, in conjunction with CVPR*. 2015.
- [C14] D. Porello, **F. Setti**, R. Ferrario, and M. Cristani. “Multiagent Socio-Technical Systems. An Ontological Approach”. In: *Coordination, Organizations, Institutions, and Norms in Agent Systems IX*. Vol. 8386. Lecture Notes in Computer Science. 2014, pp. 42–62. DOI: 10.1007/978-3-319-07314-9_3.
- [C13] D. Conigliaro, **F. Setti**, C. Bassetti, R. Ferrario, and M. Cristani. “ATTENTO: ATTENTION Observed for Automated Spectator Crowd Analysis”. In: *Human Behavior Understanding*. Vol. 8212. Lecture Notes in Computer Science. Barcelona, Spain, Oct. 2013, pp. 102–111. DOI: 10.1007/978-3-319-02714-2_9.
- [C12] D. Conigliaro, **F. Setti**, C. Bassetti, R. Ferrario, and M. Cristani. “Viewing the Viewers: A Novel Challenge for Automated Crowd Analysis”. In: *New Trends in Image Analysis and Processing – ICIAP*. Vol. 8158. Lecture Notes in Computer Science. Neaples, Italy, Sept. 2013, pp. 517–526. DOI: 10.1007/978-3-642-41190-8_56.
- [C11] **F. Setti**, D.-S. Cheng, S. Abdulhak, R. Ferrario, and M. Cristani. “Ontology-Assisted Object Detection: Towards the Automatic Learning with Internet”. In: *Image Analysis and Processing – ICIAP 2013*. Vol. 8157. Lecture Notes in Computer Science. Neaples, Italy, Sept. 2013, pp. 191–200. DOI: 10.1007/978-3-642-41184-7_20.

- [C10] **F. Setti**, H. Hung, and M. Cristani. "Group detection in still images by F-formation modeling: A comparative study". In: *14th International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS)*. Paris, France, July 2013, pp. 1–4. DOI: 10.1109/WIAMIS.2013.6616147.
- [C9] **F. Setti**, O. Lanz, R. Ferrario, V. Murino, and M. Cristani. "Multi-scale F-formation discovery for group detection". In: *20th IEEE International Conference on Image Processing (ICIP)*. Melbourne, Australia, Sept. 2013, pp. 3547–3551. DOI: 10.1109/ICIP.2013.6738732.
- [C8] **F. Setti**, D. Porello, R. Ferrario, S. Abdulhak, and M. Cristani. "'Tell Me More': How Semantic Technologies Can Help Refining Internet Image Search". In: *Proceedings of the International Workshop on Video and Image Ground Truth in Computer Vision Applications (VIGTA)*. St. Petersburg, Russia, July 2013, 3:1–3:6. DOI: 10.1145/2501105.2501110.
- [C7] I. Afanasyev, M. Lunardelli, N. Biasi, L. Baglivo, M. Tavernini, **F. Setti**, and M. De Cecco. "3D Human Body Pose Estimation by Superquadrics". In: *International Conference on Computer Vision Theory and Applications (VISAPP)*. Vol. 2. Rome, Italy, 2012, pp. 294–302.
- [C6] N. Biasi, **F. Setti**, M. Tavernini, A. Fornaser, M. Lunardelli, M. Da Lio, and M. De Cecco. "Low-cost Garment-based 3D Body Scanner". In: *3rd International Conference and Exhibition on 3D Body Scanning Technologies*. Lugano, Switzerland, Oct. 2012, pp. 106–114.
- [C5] L. Baglivo, A. Del Bue, M. Lunardelli, **F. Setti**, V. Murino, and M. De Cecco. "A Method for Asteroids 3D Surface Reconstruction from Close Approach Distances". In: *Computer Vision Systems*. Vol. 6962. Lecture Notes in Computer Science. Sophia Antipolis, France, Sept. 2011, pp. 21–30. DOI: 10.1007/978-3-642-23968-7_3.
- [C4] C. Russell, L. Agapito, and **F. Setti**. "Efficient Second Order Multi-Target Tracking with Exclusion Constraints". In: *Proceedings of the British Machine Vision Conference (BMVC)*. Dundee, UK, Sept. 2011, pp. 13.1–13.11. DOI: 10.5244/C.25.13.
- [C3] **F. Setti**, M. De Cecco, and A. Del Bue. "A multi-view stereo system for articulated motion analysis". In: *International Conference on Computer Vision Theory and Applications (VISAPP)*. Angers, France, May 2010, pp. 11–16.
- [C2] M. De Cecco, L. Baglivo, G. Parzianello, M. Lunardelli, **F. Setti**, and M. Pertile. "Uncertainty analysis for multi-stereo 3d shape estimation". In: *IEEE International Workshop on Advanced Methods for Uncertainty Estimation in Measurement (AMUEM)*. Bucharest, Romania, July 2009, pp. 22–27. DOI: 10.1109/AMUEM.2009.5207608.
- [C1] M. De Cecco, M. Pertile, L. Baglivo, G. Parzianello, M. Lunardelli, **F. Setti**, and A. Selmo. "Multi-stereo compatibility analysis for 3d shape estimation". In: *Proceedings of the IMEKO XIX World Congress*. Lisbon, Portugal, Sept. 2009, pp. 1909–1914.

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