

# Curriculum vitae of Simone Milani

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## General Information

First Name: Simone  
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## Short Biographical and Research Information

Simone Milani received his Laurea Degree (5 years course) with honors from the University of Padova, Italy, on December 2002. In 2003 he won a research scholarship within the MiUR project FIRB PRIMO to investigate about the topic "Rate Control algorithms for the H.264/AVC coder". In 2004 he was enrolled in the Ph.D. course in Electronics and Telecommunication Engineering at the Department of Information Engineering (DEI) of the University of Padova under the supervision of G. A. Mian. His research was focused on video source coding and video transmission over lossy networks. He also collaborated with STMicroelectronics, Agrate Brianza (MI), Italy, investigating optimization algorithms for the H.264/AVC coder. On August 2005 he joined the "Education Abroad Program" of the University of California and spent ten months at the University of California - Berkeley, Berkeley, CA, USA. In this period, he joined the research group of prof. K. Ramchandran and worked on Distributed Source Coding applied to robust video transmission. On December 2006 he finished his Ph.D. course, and he started working with prof. G. Calvagno within the PRIN project 2005 "Reliable Multimedia Transmission over non-Reliable Networks" in collaboration with the University of Udine, Italy, and the University of Genova, Italy. On August 2007, he won a position as research associate at the University of Udine, Udine, Italy, for the research project "Robust transmission using cross-packet FEC coding", which concluded the PRIN 2005 work. He was enrolled at the University of Udine until December 2007 working with prof. Roberto Rinaldo and dott. Riccardo Bernardini on cross-layer optimization strategies for the video transmission over IEEE 802.11e networks. As a result of this work, in 2008 he won the Fabio Carassa Award at the GTTI Annual Meeting 2008. From January 2008 till June 2011, he was research associate at the University of Padova working with prof. Giancarlo Calvagno and Guido Cortelazzo on robust transmission of video data. More precisely, he focused his research on P2P streaming of video sequences and on the optimization of 3D video transmission over faulty channels. In September 2011, he won the Carlo Offelli 2011 Award given by the Dept. of Information Engineering of the University of Padova to the Best Young Researcher. From July 2011 to April 2014, he was enrolled as research associate at the Politecnico di Milano, Milan, Italy, within the EU FP7 research project REWIND working on reverse engineering of audio-visual content data with prof. Stefano Tubaro. Several analysis tools were proposed including an award-winning multiple compression detector (Top 10% Paper award at the conference MMSP 2012).

At the moment, he is enrolled as assistant professor at the University of Padova, Italy. His main research topics are digital signal processing, source coding, joint source-channel coding, robust video transmission over lossy packet networks, distributed source coding, 3D video transmission, 3D video compression, reverse engineering of multimedia data. At the moment his research is also focused on acquisition and processing of 3D scenes for video surveillance, robotics and automatic controls.

He is also a IEEE member of Information Theory and Signal Processing Societies and he has also been a reviewer for IEEE Transactions on Circuits and Systems for Video Technology, International Journal of Digital Multimedia Broadcasting, IEEE Transactions on Information Forensics and Security, EURASIP Journal on Advances in Signal Processing, Recent Patents on Computer Science, and several other international conferences. Since August 2010 he is also Associate Editor of the Journal of Next Generation Information Technology and of the International Journal of Information Processing and Management.

He also taught lab exercise sessions for the Digital Signal Processing course with prof. G.A. Mian (Autumn 2004) and prof. G.M. Cortelazzo (Autumn 2006). On March 2012 he held the Ph.D. course "Game Theory to communication networks and other distributed problems" (in English) as main lecturer at the Politecnico di Milano within the Ph.D. course in Telecommunication Engineering. The course was proposed again in 2013 and 2014. During the Autumn 2013, he was exerciser for the third-year course "Foundation of Digital Signal Processing" taught by prof. Tubaro at Politecnico di Milano. At the moment, he is teaching the course "Source Coding at the University of Padova."

His research concerns the acquisition, processing, coding and the transmission of video sequences across different types of networks paying a specific attention for wireless networks. In these years, his activities involved

- rate control algorithms
- cross-layer optimization algorithms for video transmission
- joint source-channel video coding with cross-packet FEC codes.
- game theory problems applied to engineering
- low cost rate-distortion optimization algorithm for the H.264 encoder.
- Multiple Description video coding
- Distributed Source Coding applied to Video.
- 3DTV Video coding
- compression of geometry signals
- object coding for low bit-rate communications
- compressive sensing algorithms for image and video coding
- P2P video transmission.
- Denoising of 3D models acquired via infrared sensors
- Denoising of images for object recognition algorithms
- Image processing for 3D reconstruction
- Reverse engineering of audio-visual data

At the moment, his work mainly concerns the design of low complexity strategy for the refinement of the quality of an image or a 3D model. This has been performed for 3D video signals and models acquired via infrared sensors like Time-of-Flight cameras and structured light sensor, like MS Xbox Kinect. Part of this research was devoted to the creation of “intelligent systems” that are able to understand the surrounding reality and drives the choices of an artificial brain. The designed algorithms also concerned standard images that had to be processed by object detection algorithm or used in navigation systems.

In this research, a specific attention has been paid to computational complexity and feasibility of these approaches on battery-alimented devices. To this purpose he has designed several cross-layer architectures until defining novel “cognitive source coding schemes”, i.e. reconfigurable systems that, according to the network status, can implement several source coding strategies (predictive, Wyner-Ziv, etc...) by assembling a common set of atomic units. Moreover, we have developed novel 3D video compression techniques that are able to obtain high coding performance thanks to the exploitation of geometry information and advanced transforms.

His also working on the reverse engineering of audio visual data, i.e. the reconstruction of the processing and compression operations performed on a multimedia content. This analysis is carried on the raw samples and is intended for forensics and quality evaluation applications.

## Studies & Research

Institution	Period month/year	Description
Dept. of Information Engineering (DEI) University of Padova, Padova, Italy	05/2014-now	Assistant professor
Dipartimento di Elettronica e Informazione (DEI) Politecnico di Milano, Milan, Italy	07/2011- 04/2014	Research associate on “Reverse engineering of audio-visual content data”. Rep. n° 98/11 Prot. n° 582.
Dept. of Information Engineering (DEI) University of Padova, Padova, Italy	02/2010- 06/2011	Research associate on “Development of algorithms for robust transmission of 3D video signals over unreliable channels”. Bando DEI 93/2009.
Dept. of Information Engineering (DEI) University of Padova, Padova, Italy	02/2008- 01/2010	Research associate on “Analysis and implementation of a scalable video coder for transmission over heterogeneous unreliable networks based on distributed coding principles” – Prot. CPDR075318.
Dipartimento di Ingegneria Elettrica, Gestionale e Meccanica (DIEGM) University of Udine, Udine, Italy	09/2007- 12/2007	Research associate on “Robust transmission using cross-packet FEC coding” within the project PRIN 2005 “Reliable Multimedia Transmission over non-Reliable Networks”.
Dept. of Information Engineering (DEI) University of Padova, Padova, Italy	01/2007- 08/2007	Research scholarship on “Robust transmission using cross-packet FEC coding” within the project PRIN 2005 “Reliable Multimedia Transmission over non-Reliable Networks”.
Dept. of Electrical Engineering and Computer Science (EECS) University of California - Berkeley, Berkeley, CA, USA	08/2005- 06/2006	Joined the exchange program EAP and spent 10 months at UC Berkeley, CA, USA. Research activity on Distributed Source Coding under the supervision of prof. K. Ramchandran.
Dept. of Information Engineering (DEI) University of Padova, Padova, Italy	01/2004- 12/2006	PhD course in Electronic Engineering and Telecommunications at the University of Padova, Italy, under the supervision of prof. G.A. Mian. <i>[Thesis: Source and Joint Source-Channel Coding for Video Transmission over Lossy Networks ]</i>
Dept. of Information Engineering (DEI) University of Padova, Padova, Italy	02/2003- 12/2003	Research scholarship on “Rate control algorithms per H.26L” within the project FIRB PRIMO

University of Padova, Padova, Italy	10/1997- 12/2002	Laurea Degree in Telecommunication Engineering (5 years program). <i>[Thesis: Rate control algorithms for H.264 ]</i> Tutor: prof. G.A. Mian Final score: 110/110 cum laude
L.S.S. "Tito Lucrezio Caro", Cittadella (PD), division of Camposampiero (PD), Italy	09/1992- 06/1997	High school diploma (Maturità Scientifica) Final score: 60/60

## Languages

Language	Reading and Writing	Spoken	Certificates TOEFL 267 (25/11/2004) GRE S340/A740/W4(05/01/2005)
Italian	native language	native language	
English	very good	very good	
French	simple	simple	
Spanish	simple	simple	

## Awards

- "Francesco Carassa" Best Paper Award within the "Signal Processing and Remote Sensing" session at the GTTI 2008 Annual Meeting for the work Simone Milani (University of Padova) and Pamela Zontone (University of Udine), "Cross-layer Optimization Strategies for Video Transmission Over IEEE 802.11e Networks".
- Candidate for the Best Paper Award at ACM Multimedia 2010 – Main conference for the paper "A Cognitive Approach for Effective Coding and Transmission of 3D Video".
- Candidate for the Best Paper Award at the 2010 ACM Workshop on Advanced Video Streaming Techniques for Peer-to-peer Networks and Social Networking for the paper "Improving Quality-of-Experience for Multiple Description Video Transmission in Peer-To-Peer Networks".
- Candidate for the Award "Carlo Offelli 2010" given by the Dept. of Information Engineering of the University of Padova to the Best Young Researcher.
- Winner of the Award "Carlo Offelli 2011" given by the Dept. of Information Engineering of the University of Padova to the Best Young Researcher.
- Winner of the "Top 10% Paper Award" at the conference MMSP 2012 for the work "Multiple Compression Detection for Video Sequences", authors: S. Milani, P. Bestagini, M. Tagliasacchi, S. Tubaro
- Winner of the "Top 10% Paper Award" at the conference MMSP 2013 for the work "Local tampering detection in video sequences", autori: P. Bestagini, S. Milani, M. Tagliasacchi, S. Tubaro
- Candidate for the Best Paper Award at ICIP 2013 for the paper "Identification of the Motion Estimation Strategy Using Eigenalgorithms", authors: S. Milani, M. Tagliasacchi, S. Tubaro
- Winner of the "Best Paper Award" at the conference EUVIP 2014 for the work "Image phylogeny through dissimilarity metrics fusion," autori: Melloni, A.; Bestagini, P.; Milani, S.; Tagliasacchi, M.; Rocha, A.; Tubaro, S.

## Work experiences

Employer	Position	Period month/year	Description
University of Udine	Collaborator	10/2011-09/2013	Research activity/Software development within the POR FESR 2007 -- 2013, Friuli Venezia Giulia Regional Project "Barcotica."
Bluewind, Castelfranco Veneto (TV)	Consultant	08/2007	Consulting activity on coding standards for video transmission
STMicroelectronics, Agrate (MI)	Collaborator	04/2003-04/2005	Consulting activity on optimization techniques for the H.264/AVC standard.
STMicroelectronics, Agrate (MI)	Stage student	07/2002-12/2002	Thesis Internship with STMicroelectronics carried on at DEI –University of Padova, Italy

## Teaching Activities

Institution	Position	Period	Description
<b>University of Padova</b>	Additional lecturer	03/2016-now	Course of Telecommunications laboratory– Bachelor degree on Telecommunications engineering (teaching language: Italian)
<b>University of Padova</b>	Main lecturer	03/2016-now	Course on computer vision and 3D Graphics– Master degree on Telecommunications engineering (teaching language: English)
<b>University of Padova</b>	Additional lecturer	03/2015-now	Course of Telecommunications laboratory– Bachelor degree on Telecommunications engineering (teaching language: Italian)
<b>University of Padova</b>	Main lecturer	03/2015-02/2016	Course on Source coding – Master degree on Telecommunications engineering (teaching language: English)
<b>Politecnico di Milano</b>	Main lecturer	02/2014 – 03/2014	Ph.D. Course on "Game Theory to communication networks and other distributed problems" (teaching language: English) – Telecommunications
<b>Politecnico di Milano</b>	Main lecturer	02/2013 – 03/2013	Ph.D. Course on "Game Theory to communication networks and other distributed problems" (teaching language: English) – Telecommunications
<b>Politecnico di Milano</b>	Assistant	02/2012 – 01/2013	Exercises for the BA course "Digital Signal Processing" (teaching language: Italian)
<b>Politecnico di Milano</b>	Main lecturer	03/01/12	Ph.D. Course on "Game Theory to communication networks and other distributed problems" (teaching language: English) – Telecommunications
<b>University of Padova</b>	Assistant	Autumn 2006	Lab exercise sessions for the Digital Signal Processing course with prof. G. M. Cortelazzo (teaching language: Italian)
<b>University of Padova</b>	Assistant	Autumn 2004	Lab exercise sessions for the Digital Signal Processing course with prof. G. A. Mian (teaching language: Italian).

## List of Publications of Simone Milani

### Published works (year 2016)

#### Journals

- [83]. Bestagini, S. Milani, M. Tagliasacchi, S. Tubaro, "Codec and GOP Identification in Double Compressed Videos", to appear on IEEE Trans. on Image Processing (accepted).
- [82] S. Milani, Compression of multiple user photo galleries, Image and Vision Computing, Available online 4 January 2016, ISSN 0262-8856, <http://dx.doi.org/10.1016/j.imavis.2015.12.002>.
- [81] Milani, G. Calvagno, "Correction and interpolation of depth maps from structured light infrared sensors", Signal Processing: Image Communication, Volume 41, February 2016, Pages 28-39, ISSN 0923-5965, <http://dx.doi.org/10.1016/j.image.2015.11.008>.

#### Conferences

- [80] S. Milani, M. Fontana, P. Bestagini, S. Tubaro, "Phylogenetic Analysis of Near-Duplicate Images using Processing Age Metrics", to appear of Proc. of IEEE ICASSP 2016 (accepted).

### Published works (year 2015)

#### Journals

- [79] S. Milani, G. Calvagno, "Distributed Multiple Description Video Transmission via Noncooperative Games With Opportunistic Players", IEEE Transactions on Circuits and Systems for Video Technology, vol. 25, no. 1, 2015, pp. 125-138, DOI: 10.1109/TCSVT.2014.2334066, ISSN: 1051-8215,

#### Conferences

- [78] Milani, S., "Three-dimensional reconstruction from heterogeneous video devices with camera-in-view information," in Image Processing (ICIP), 2015 IEEE International Conference on , vol., no., pp.2050-2054, 27-30 Sept. 2015 doi: 10.1109/ICIP.2015.7351161
- [77] Milani, S.; Zanuttigh, P., "Compression of photo collections using geometrical information," in Multimedia and Expo (ICME), 2015 IEEE International Conference on , vol., no., pp.1-6, June 29 2015-July 3 2015 doi: 10.1109/ICME.2015.7177379
- [76] Zennaro, S.; Munaro, M.; Milani, S.; Zanuttigh, P.; Bernardi, A.; Ghidoni, S.; Menegatti, E., "Performance evaluation of the 1st and 2nd generation Kinect for multimedia applications," in Multimedia and Expo (ICME), 2015 IEEE International Conference on , vol., no., pp.1-6, June 29 2015-July 3 2015 doi: 10.1109/ICME.2015.7177380

### Published works (year 2014)

#### Journals

- [75] S. Milani, M. Tagliasacchi, S. Tubaro, "Discriminating Multiple JPEG Compression Using First Digit Features", APSIPA Transactions on Signal and Information Processing, vol. 3 no. 19, 2014 / e19 doi: 10.1017/ATSIP.2014.19, Published online: 22 December 2014

#### Conferences

- [74] Lameri, S.; Bestagini, P.; Mellon, A.; Milani, S.; Rocha, A.; Tagliasacchi, M.; Tubaro, S., "Who is my parent? Reconstructing video sequences from partially matching shots," Image Processing (ICIP), 2014 IEEE International Conference on , vol., no., pp.5342,5346, 27-30 Oct. 2014
- [73] Milani, S.; Bestagini, P.; Tagliasacchi, M.; Tubaro, S., "Antiforensic synthesis of motion vectors using template algorithms," Acoustics, Speech and Signal Processing (ICASSP), 2014 IEEE International Conference on , vol., no., pp.2709,2713, 4-9 May 2014
- [72] Milani, S.; Bestagini, P.; Tagliasacchi, M.; Tubaro, S., "Demosaicing strategy identification via eigenalgorithms," Acoustics, Speech and Signal Processing (ICASSP), 2014 IEEE International Conference on , vol., no., pp.2659,2663, 4-9 May 2014
- [71] Milani, S.; Piazza, P.F.; Bestagini, P.; Tubaro, S., "Audio tampering detection using multimodal features," Acoustics, Speech and Signal Processing (ICASSP), 2014 IEEE International Conference on , vol., no., pp.4563,4567, 4-9 May 2014

- [70] Melloni, A.; Bestagini, P.; Milani, S.; Tagliasacchi, M.; Rocha, A.; Tubaro, S., "Image phylogeny through dissimilarity metrics fusion," *Visual Information Processing (EUVIP)*, 2014 5th European Workshop on , vol., no., pp.1,6, 10-12 Dec. 2014
- [69] Milani, S.; Cuccovillo, L.; Tagliasacchi, M.; Tubaro, S.; Aichroth, P., "Video camera identification using audio-visual features," *Visual Information Processing (EUVIP)*, 2014 5th European Workshop on , vol., no., pp.1,6, 10-12 Dec. 2014
- [68] Lorenzo Gaborini, Paolo Bestagini, Simone Milani, Marco Tagliasacchi, Stefano Tubaro, "Multi-Clue Image Tampering Localization", *Proc. of 2014 IEEE Workshop on Information Forensics and Security (WIFS 2014)*, Atlanta, Georgia, USA, Dec. 2014.

## **Published works (year 2013)**

### **Journals**

- [67] S. Milani, G. Calvagno, "Distributed Video Coder Based on Lossy Syndromes Generated in Hybrid Pixel/Transform Domain", *Signal Processing: Image Communications*, vol. 28, 2013, pp. 553-568, ISSN: 0923-5965, DOI: <http://dx.doi.org/10.1016/j.image.2013.03.007>. Bibtex
- [66] M. Marcon, S. Milani, "Televisione 3D: stato dell'arte e prospettive", *AEIT*, Vol. 4/5, apr.-mag. 2013, Pag.52-57. (in italian)

### **Conference proceedings**

- [65] S. Milani, M. Tagliasacchi, S. Tubaro, "Identification of the Motion Estimation Strategy Using Eigenalgorithms", *Proc. of ICIP 2013*, Melbourne, Australia, Candidate for Best Paper Award.
- [64] S. Milani, D. Ferrario, S. Tubaro, "No-Reference Quality Metric for Depth Maps", to appear on *Proc. of ICIP 2013*, Melbourne, Australia. Errata Corrige
- [63] Anna Ukhanova, Simone Milani, Soren Forchhammer, "Game-Theoretic Rate-Distortion-Complexity Optimization of HEVC", *Proc. of ICIP 2013*, Melbourne, Australia.
- [62] P. Bestagini, S. Milani, M. Tagliasacchi, S. Tubaro, "Local tampering detection in video sequences", *Proc. of 15th IEEE International Workshop on Multimedia Signal Processing (MMSp 2013)*, Pula, Italy, 2013
- [61] S. Milani, R. Bernardini, R. Rinaldo, "A Saliency-Based Rate Control For People Detection in Video", *Proc. of ICASSP 2013*, Vancouver, Canada, May 26-31 2013, pp. 2016-2020, ISBN: 978-1-4799-0356-6.
- [60] S. Milani, M. Tagliasacchi, S. Tubaro, "Antiforensics Attacks to Benford's Law for the Detection of Double Compressed Images", *Proc. of ICASSP 2013*, Vancouver, Canada, May 26-31 2013, pp. 3053-3057, ISBN: 978-1-4799-0356-6.
- [59] P. Bestagini, S. Battaglia, S. Milani, M. Tagliasacchi, S. Tubaro, "Detection of temporal interpolation in video sequences", *Proc. of ICASSP 2013*, Vancouver, Canada, May 26-31 2013, pp. 3033-3036, ISBN: 978-1-4799-0356-6.
- [58] P. Bestagini, S. Milani, M. Tagliasacchi, S. Tubaro, "Video codec identification extending the idempotency property", *Proc. of the 4th European Workshop on Visual Information Processing (EUVIP 2013)*, Paris, France, Jun. 12-13, 2013.

## **Published works (year 2012)**

### **Journal papers**

- [57] S. Milani, M. Fontani, P. Bestagini, M. Barni, A. Piva, M. Tagliasacchi, S. Tubaro, "An overview on video forensics", *APSIPA Transactions on Signal and Information Processing*, vol. 1 no. 1, Aug. 2012, e2  
doi:10.1017/ATSIP2012.2.

### **Conference proceedings**

- [56] S. Milani, M. Tagliasacchi, and S. Tubaro, "Discriminating Multiple JPEG Compression Using First Digit Features", *Proc. of ICASSP 2012*, Kyoto, Japan, Mar. 25-30, 2012, pp. 2253-2256, ISSN: 1520-6149, ISBN: 978-1-4673-0045-2, DOI: 10.1109/ICASSP.2012.6288362.
- [55] P. Bestagini, A. Allam, S. Milani, M. Tagliasacchi, S. Tubaro, "Video Codec Identification", *Proc. of ICASSP 2012*, Kyoto, Japan, Mar. 25-30, 2012, pp. 797-800, ISSN: 1520-6149, ISBN: 978-1-4673-0045-2, DOI: 10.1109/ICASSP.2012.6288363.
- [54] S. Milani, G. Calvagno, "Joint Denoising and Interpolation of Depth Maps for MS Kinect Sensors", *Proc. of ICASSP 2012*, Kyoto, Japan, Mar. 25-30, 2012, pp. 2257-2260, ISSN: 1520-6149, ISBN: 978-1-4673-0045-2, DOI: 10.1109/ICASSP.2012.6288004.

- [53] S. Milani, G. Calvagno, "Reliable 3D video P2P transmission enabling synthesis of virtual views", Proc. of 5th International Symposium on Communications Control and Signal Processing (ISCCSP 2012), Rome, Italy, May 2-4, 2012, pp. 1-4, ISBN: 978-1-4673-0274-6, DOI: 10.1109/ISCCSP.2012.6217766.
- [52] P. Bestagini, S. Milani, M. Tagliasacchi, S. Tubaro, "Quality Change Detector for Video Sequences", GTTI 2012 Annual Meeting, Cagliari-Villasimius (CA), Italy, June 25-27 2012.
- [51] S. Milani, R. Bernardini, R. Rinaldo, "Adaptive Denoising Filtering for Object Detection Applications", GTTI 2012 Annual Meeting, Cagliari-Villasimius (CA), Italy, June 25-27 2012.
- [50] P. Bestagini, M. Fontani, S. Milani, M. Barni, A. Piva, M. Tagliasacchi, S. Tubaro, "An overview on video forensics", Proc. of EUSIPCO 2012, Bucharest, Romania, Aug. 27-31, 2012, pp. 1229-1233, ISSN: 2076-1465.
- [49] Marco Gaggio, Simone Milani, Livio Lima, Pierangelo Migliorati, Giancarlo Calvagno, "P2P scalable video streaming using data priority and FEC-based Noncooperative Multiple Description", Proc. of EUSIPCO 2012, Bucharest, Romania, Aug. 27-31, 2012, pp. 1534-1538, ISSN: 2076-1465.
- [48] S. Milani, R. Bernardini, R. Rinaldo, "Adaptive Denoising Filtering for Object Detection Applications", to appear on Proc. of ICIP 2012, Orlando (FL), USA, Sep. 30 – Oct 3, 2012.
- [47] S. Milani, P. Bestagini, M. Tagliasacchi, S. Tubaro, "Multiple Compression Detection for Video Sequences", to appear on Proc. of MMSP 2012, Banff, Canada, Sep. 17-19, 2012. **Awarded with the "Top 10% Paper Award"**
- [46] S. Milani, E. Frigerio, M. Marco, S. Tubaro, "Denoising Infrared Structured Light DIBR Signals Using 3D Morphological Operators", Proc. of 3DTV Conference 2012, Zurich, Switzerland, oct. 2012.

### Book chapters

- [45] S. Milani, G. Calvagno, "A Cognitive Source Coding Scheme for Multiple Description 3DTV Transmission", to appear on "Analysis, Retrieval, and Delivery of Multimedia Contents" (extended version of WIAMIS 2010 paper); editors: N. Adami, A. Cavallaro, R. Leonardi, P. Migliorati.

### Published works (year 2011)

#### Journals

- [44] S. Milani, "Fast H.264/AVC FReXt Intra Coding Using Belief Propagation", IEEE Trans. on Image Processing, vol. 20, no. 1, Jan 2011, pp. 121-131, ISSN: 1057-7149, DOI: 10.1109/TIP.2010.2055572.
- [43] L. Cappellari, S. Milani, C. Cruz-Reyes, G. Calvagno, "Resolution Scalable Image Coding with Reversible Cellular Automata", IEEE Trans. on Image Processing, vol. 20, no. 5, May 2011, pp. 1461-1468, ISSN: 1057-7149, DOI: 10.1109/TIP.2010.2090531.
- [42] S. Milani, G. Calvagno, "A Cognitive Approach for Effective Coding and Transmission of 3D Video", ACM Transactions on Multimedia Computing, Communications, and Applications (ACM TOMCCAP), vol. 7S, No. 1, Oct. 2011, pp. 23:1-23:21, ISSN: 1551-6857, DOI: 10.1145/2037676.2037680.
- [41] Pietro Zanuttigh, Simone Milani and Guido M. Cortelazzo, "Depth and multi-view image and video coding: algorithms and quality issues beyond the ones of standard image and video compression", IEEE Multimedia Communications Technical Committee E-Letter, vol. 6, n. 11, pp. 9-13.

#### Conference proceedings

- [40] S. Milani, M. Gaggio, G. Calvagno, "3DTV Streaming Over Peer-to-Peer Networks Using FEC-based Noncooperative Multiple Description", Proc. of MediaWin 2011, Corfu, Greece, June 28, 2011, pp. 13-18, ISBN: 978-1-4577-0680-6, DOI: 10.1109/ISCC.2011.5984018.
- [39] M. Zamarin, S. Milani, P. Zanuttigh, S. Forchhammer, "Efficient depth map compression exploiting segmented color data", Proc. of the 2011 IEEE International Conference on Multimedia and Expo (ICME 2011), Barcelona, Spain, Jul. 11-15, 2011, pp. 1-6, ISBN: 978-1-61284-348-3, ISSN: 1945-7871, DOI: 10.1109/ICME.2011.6011969.
- [38] S. Milani, S. Busato, G. Calvagno, "Multiple Description Peer-To-Peer Video Streaming Using Coalitional Games", Proc. of the 19th European Signal Processing Conference (EUSIPCO 2011), Barcelona, Spain, Aug. 29 – Sep. 2, 2011, pp. 1105-1109, ISBN: 2219-5491.
- [37] S. Milani, G. Calvagno, "3D Video Coding via Motion Compensation of Superpixels", Proc. of the 19th European Signal Processing Conference (EUSIPCO 2011), Barcelona, Spain, Aug. 29 – Sep. 2, 2011, pp. 1899-1903, ISBN: 2219-5491.
- [36] S. Milani, G. Calvagno, "Segmentation-Based Motion Compensation for Enhanced Video Coding", Proc. of 2011 IEEE International Conference on Image Processing (ICIP 2011), Brussels, Belgium, Sep. 11-14 2011, pp. 1685-1688, ISSN: 1522-4880, ISBN: 978-1-4577-1304-0, DOI: 10.1109/ICIP.2011.6115769.



## Published works (year 2010)

### Journals

- [35] S. Milani, G. Calvagno, "Multiple Description Distributed Video Coding Using Redundant Slices and Lossy Syndromes," *IEEE Signal Processing Letters*, Vol. 17, no. 1, pp. 51-54, Jan 2010, ISSN:1070-9908, DOI: 110.1109/LSP.2009.2031748.
- [34] M. Zamarin, S. Milani, P. Zanuttigh, G.M. Cortelazzo, "A novel multi-view image coding scheme based on view-warping and 3D-DCT", *Journal of Visual Communication and Image Representation*, vol. 21, issue 5-6, pp. 462-473, Jul. 2010, ISSN: 1047-3203, DOI: 10.1016/j.jvcir.2009.09.008.
- [33] S. Milani, G. Calvagno, "A Depth Image Coder Based on Progressive Silhouettes," *IEEE Signal Processing Letters*, vol. 17, no. 8, pp. 711-714, Aug. 2010, ISSN: 1070-9908, DOI: 10.1109/LSP.2010.2051619.

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- [32] S. Milani, G. Calvagno, "Improving Quality-of-Experience for Multiple Description Video Transmission in Peer-To-Peer Networks", *Proc. of ACM Multimedia 2010 – ACM Workshop on Advanced Video Streaming Techniques for Peer-to-peer Networks and Social Networking*, Florence, Italy, Oct. 2010, pp. 65-69, ISBN: 978-1-4503-0169-5, DOI: 10.1145/1877891.1877907. Candidate for the Best Paper Award.
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