

Cristina Segalin

PhD in Computer Science

California Institute of Technology
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Short Research Summary

BSc in Multimedia Computer Science (2010), MSc in Engineering and Computer Science (2012), PhD in Computer Science (2016) at the Dept. of Computer Science of the University of Verona. Visiting student at School of Computing Science (Glasgow, Scotland), School of Computer Science (Birmingham, UK), Intern at IIT (Genova, IT), Disney Research (Pittsburgh, PA). Currently Postdoc at CalTech (Pasadena, CA). Research interests on Computer vision, Pattern Recognition, Deep Learning, Image/Video Processing, Social Signal Processing, Social Media Analysis, Non-Verbal Behavior Analysis, Behavioral Science, Neuroscience, Computational Aesthetics, Biometrics, Computational Ethology, Brain Computer Interfaces, Virtual/Augmented Reality.

Current Position

08/16 - Present **Postdoctoral Scholar**, *Computational Vision Lab, California Institute of Technology, Pasadena, CA.*

- Topics: Pattern Recognition, Computer Vision, Computational Ethology
- Advisor: **Pietro Perona**

Education and Experience

Education

01/13 - 12/15 **Ph.D. in Computer Science**, *Dept. of Computer Science, University of Verona, Italy.*

- Thesis title: A Social Signal Processing Perspective on Computational Aesthetics: Theories and Applications.
- Topics: Social Signal Processing, Pattern Recognition, Computer Vision, Computational Aesthetics, Social Media Analysis, Biometrics, Image Processing
- Advisor: **Marco Cristani**

10/10 - 07/12 **Master Degree in Computer Engineering and Computer Science**, *Dept. of Computer Science, University of Verona, Italy*, Curriculum: Visual Computing.

- Thesis title: Statistical analysis of Skype conversations: recognizing individual by their chatting style.
- Thesis topics: Re-identification, Social Signal Processing
- Advisors: Marco Cristani, Matteo Cristani
- Final degree mark *110/110*.

10/07 - 12/10 **Bachelor Degree in Multimedia Information Technology**, *Dept. of Computer Science, University of Verona, Italy.*

- Sistema di rilevamento automatico e riconoscimento volti: aspetti metodologici e pratici.
- Thesis topics: Face recognition, Re-identification
- Advisors: Umberto Castellani, Marco Cristani
- Final degree mark *100/110*.

09/02 - 07/07 **High School Diploma in Ragioneria and Expert Programmer.**

- Final mark *100/100*.
- Main school subjects: Computer Science, English, German, Ragioneria, Banking, Financial Mathematics, Political Economy, Finance and Law.

Previous Experience

- Feb-Apr 2016 **Disney Research Internship**, *Disney Research*, Pittsburgh, PA, Tutor: Maarten Bos.
- Oct-Dec 2014 **UoB Visiting student**, *School of Computer Science*, Birmingham, UK, Academic Tutor: M. Cristani, Tutor: M. Musolesi.
- Apr-Aug 2013 **GLA. DCS Visiting student**, *School of Computing Science*, Glasgow, Scotland, Academic Tutor: M. Cristani, Tutor: A. Vinciarelli.
- Jun-Nov 2012 **IIT Internship**, *IIT Genova*, Genova, Tutor: V. Murino.
- Feb-Apr 2012 **VIPS Lab Internship**, *Computer Science Department*, University of Verona, Academic Tutor: M. Cristani, Tutor: U. Castellani.
- Sep-Dec 2010 **VIPS Lab Internship**, *Computer Science Department*, University of Verona, Academic Tutor: U. Castellani, Tutor: M. Cristani.

Awards and Grants

- Scholarship **ICVSS Best Presentation Award 2015** - International Computer Vision Summer School best poster presentation.
- PhD Grant **Erasmus Placement 2013** - Second in the list for four grants to be assigned to PhD students for placements in companies, facilities in one of the countries participants to the LLP program.
- Scholarship **PhD Scholarship** - University of Verona that supported my PhD from Jan. 2013 to Dec 2015

Scientific Interests

Computer vision, Pattern Recognition, Image/Video Processing, Social Signal Processing, Social Media Analysis, Non-Verbal Behavior Analysis, Behavioral Science, Neuroscience, Computational Aesthetics, Biometrics, Computational Ethology, Deep Learning, Virtual/Augmented Reality and Brain Computer Interfaces.

Selected Talks

- 26th May 2017 Social Profiling through Image Understanding - Association for Psychological Science Convention - Boston, MA
- 25th Feb 2016 Computational Aesthetics for Multimedia, a Social Signal Processing Perspective - CalTech, Pasadena, CA
- 29th Oct 2015 Computational Aesthetics for Multimedia - UNSW School of Psychology, Sydney, AUS
- 27th Oct 2015 Computational Aesthetics for Multimedia - UTS, Sydney, AUS
- 21st Oct 2015 Computational Aesthetics for Multimedia - NICTA, Canberra, AUS
- 17th July 2015 ICVSS oral presentation for best poster presentation award - Sicily, IT

Additional Information

- Reviewer ACCV, ICCV, CVPR, CHI, PLOS ONE, NEUROCOM, IEEE Multimedia, AIMed
- Journals IEEE Transaction on Affective Computing, IEEE Transaction on Information Forensics and Security, Computer Vision Image Understanding
- Conferences APS17, ACM17/12, WIML16, ICM16/14, ACCV14, ICIP14/13, ACM13, CIARP13, AVSS13, ICPR13, WIAMIS12
- Supervision Francesca Zerbato, Luca Brunelli, Marco Fanini, Walter Riviera, Elena Boschetti - University of Verona, Verona, Italy
- Zack Polizzi, David Mace, Jennifer Sun - CalTech, Pasadena, CA

Skills

Coding Matlab (>8 years), Python (>1 year), R, C/C++/C#, HTML, CSS, Javascript, PHP, Java, SystemC, VHDL, Assembly, SIS, SQL, Visual Basic

Multimedia/Design Photoshop, Illustrator, After Effects, Premiere, Blender, Unity, 3ds Max, Maya

Tools Tensorflow, Caffe, MatConvNet, L^AT_EX, git, bash scripting, ARToolkit, PRTools, Flickr API, Twitter API, Processing

OS All Microsoft OS's, Linux, Mac OS's based system

Languages Italian, English, German

Qualities

Personal skills Inclined to analyze both theoretical and practical problems, able to solve them by employing novel concepts, good communication, eager to learn and develop new skills. Good software engineering abilities.

Experience with High level programming languages, digital design flow, validation and testing techniques, scripting languages, web interface development.

Interpersonal skills Strong ability to blend in new contexts, good skills in teamwork, good organizational abilities, dynamism, desire for learning, extrovert.

Driving license Category B.

Hobby and Sport Photo editing and photography, Virtual/Augmented Reality and Brain Computer Interfaces game development, watching tv series and movies, reading books, yoga, figure roller-skating (practiced for 4 years), swim (practiced for 10 years at competitive level), gold medal in high jump (2005-2007) and long jump (2005-2006) at regional competitions.

Reference List

Pietro Perona California Institute of Technology, Pasadena, CA. perona@caltech.edu

David Anderson California Institute of Technology, Pasadena, CA. wuwei@caltech.edu

Maarten W. Bos Disney Research Pittsburgh, Pittsburgh, PA. mbos@disneyresearch.com

Bruno Lepri Fondazione Bruno Kessler, Trento, Italy. lepri@fbk.eu

Marco Cristani University of Verona, Verona, Italy. marco.cristani@univr.it

Alessandro Vinciarelli School of Computing Science, University of Glasgow (Glasgow) and Idiap Research Institute (Switzerland). vincia@dcs.gla.ac.uk

Mirco Musolesi School of Computer Science, University of Birmingham (UK). m.musolesi@cs.bham.ac.uk

Press

- 5 Lessons to Learn from a Disney Research Scientist - *DMN*
- Disney's Deep Dive on Personality Research, and Its Potential Implications for Brand Marketers - *Street Fight*

Publications

Submitted Papers

- [S2] S. Matz, C. Segalin, D. Stillwell, S. R. Müller and M. Bos. 'Personality-customized communication: Using computational methods to predict the personal appeal of marketing images'. In: *Journal of Marketing Research* (2017).
- [S1] C. Segalin, A. Vinciarelli and M. Musolesi. 'The Role of Images as Social Signals: Evidence from the Analysis of Twitter Information Propagation Processes'. In: *Nature Human Behavior* (2017).

Journal Papers

- [J4] C. Segalin, D. Cheng and M. Cristani. 'Social Profiling through Image Understanding: Personality Inference using Convolutional Neural Networks'. In: *Computer Vision and Image Understanding* (2016).
- [J3] C. Segalin, D. Cheng and M. Cristani. 'Social Profiling through Image Understanding: Personality Inference using Convolutional Neural Networks'. In: *WIML Workshop* (2016).
- [J2] C. Segalin, A. Perina, M. Cristani and A. Vinciarelli. 'The pictures we like are our Image: Continuous mapping favorited pictures into self-assessed and attributed personal traits'. In: *IEEE Transactions on Affective Computing* (2015).
- [J1] P. Lovato, M. Bicego, C. Segalin, A. Perina, N. Sebe and M. Cristani. 'Faved! Biometrics: Tell Me Which Image You Like and I'll Tell You Who You Are'. In: *IEEE Transactions on Information Forensics and Security* 9.3 (2014), pp. 364–374.

Conference Papers

- [C12] C. Segalin, F. Celli, B. Lepri, M. Kosinski, M. Cristani and L. Polonio. 'What your Facebook Profile Picture Reveals about your Personality: A Feature-based Approach'. In: *ACM Multimedia* (2017).
- [C11] C. Segalin, A. Perina and M. Cristani. 'Biometrics on Visual Preferences: a "Pump and Distill" Regression Approach'. In: *IEEE International Conference on Image Processing*. 2014.
- [C10] C. Segalin, A. Perina and M. Cristani. 'Personal Aesthetics for Soft Biometrics: a Generative Multi-resolution Approach'. In: *Proceedings of the International Conference on Multimodal Interaction*. 2014.
- [C9] C. Segalin, A. Perina and M. Cristani. 'Recognizing People by Their Personal Aesthetics: a Statistical Multi-level Approach'. In: *Proceedings of the Asian Conference on Computer Vision*. 2014.
- [C8] M. Cristani, A. Vinciarelli, C. Segalin and A. Perina. 'Unveiling the multimedia unconscious: Implicit cognitive processes and multimedia content analysis'. In: *Proceedings of the ACM international conference on Multimedia*. ACM. 2013, pp. 213–222.
- [C7] P. Lovato, A. Perina, D. S. Cheng, C. Segalin, N. Sebe and M. Cristani. 'We like it! Mapping image preferences on the counting grid.' In: *IEEE International Conference on Image Processing*. 2013, pp. 2892–2896.
- [C6] A. Pesarin, M. Tait, A. Vinciarelli, C. Segalin, G. Bilancia and M. Cristani. 'Generative modelling of dyadic conversations: characterization of pragmatic skills during development age'. In: *Multimodal Pattern Recognition of Social Signals in Human-Computer-Interaction*. 2013, pp. 1–8.
- [C5] G. Roffo, C. Segalin, A. Vinciarelli, V. Murino and M. Cristani. 'Reading between the turns: Statistical modeling for identity recognition and verification in chats'. In: *IEEE International Conference on Advanced Video and Signal Based Surveillance*. IEEE. 2013, pp. 99–104.
- [C4] G. Roffo, M. Cristani, F. Pollick, C. Segalin and V. Murino. 'Statistical Analysis of Visual Attentional Patterns for Video Surveillance'. In: *Progress in Pattern Recognition, Image Analysis, Computer Vision, and Applications*. 2013, pp. 520–527.
- [C3] C. Segalin, A. Pesarin, A. Vinciarelli, M. Tait and M. Cristani. 'The expressivity of turn-taking: Understanding children pragmatics by hybrid classifiers'. In: *International Workshop on Image Analysis for Multimedia Interactive Services*. IEEE. 2013, pp. 1–4.
- [C2] M. Cristani, G. Roffo, C. Segalin, L. Bazzani, A. Vinciarelli and V. Murino. 'Conversationally-inspired stylometric features for authorship attribution in instant messaging'. In: *Proceedings of the International Conference on Multimedia*. ACM. 2012, pp. 1121–1124.
- [C1] M. Tait, M. Cristani, A. Pesarin, C. Segalin and G. Bilancia. 'Lo sviluppo delle competenze pragmatica tra i 3 e gli 8 anni'. In: *XXI Congresso Nazionale AIRIPA, Bari*. 2012.