

# Niculae Sebe

## *University of Trento*

Department of Information Engineering and Computer Science (DISI)

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Italy

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## Personal data

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Languages: English (very good), Romanian (native speaker), Italian (good), Dutch (basic).

## Research Interests

Computer Vision, Multimedia Analysis, Human-computer Interaction, Human-centered Computing, Affective Computing, Social Signal processing, Multimedia Information Retrieval, Brain-computer Interfaces.

## Education

**Ph.D.**, Computer Science, Leiden University, The Netherlands 28 March 2001

Thesis: Improving Visual Matching - Similarity Noise Distribution and Optimal Metrics

Advisor: Prof. Dr. Frans J. Peters, Philips Research, The Netherlands

Co-advisor: Prof. Dr. Thomas S. Huang, Univ. of Illinois at Urbana-Champaign, USA

**M.Sc.**, Electrical Engineering, "Politehnica" University of Bucharest, Romania June 1996

Thesis: Image Compression Using Vector Quantization with a Kohonen Neural Network

Supervisor: Prof. Dr. Victor Neagoe

## Research experience

### *University of Trento, Italy*

**Full Professor**, DISI

01/07/2015- present

**Associate Professor**, DISI/Faculty of Cognitive Sciences

01/12/2008- 30/06/2015

### *University of Amsterdam, The Netherlands*

Faculty of Science, ISLA Group

01/05/2003- 30/11/2008

My research addresses the problem of **sensing and understanding users' interactive actions and intentions** for achieving multimodal human-computer interaction in natural settings. A critical issue here is that human face and body exhibit complex and rich dynamic behavior that is all non-linear, time varying, and context dependent (person, task, mood/affect dependent). Thus, the main focus of my research is on **multimodal human-computer interaction models from multi-sensory observations**. The research done so far addressed the area of analyzing the user's behavior (e.g., facial expressions, body and head pose, eye tracking, etc.) in his personal environment (e.g., home or office) as well as multimodal emotion recognition from facial expressions, audio, and physiological and brain signals. Another important aspect is the analysis of **multimedia information retrieval** techniques toward extracting **affective information** from multimedia data (e.g., movies).

### *University of Illinois at Urbana-Champaign, USA*

**Visiting Professor**, Beckman Institute

5/2003 - 9/2003

My research addressed the problem of **semi-supervised learning** of probabilistic classifiers in **Human-computer Interaction applications**. We provided a new analysis that shows under what conditions **unlabeled data** can be used in learning to improve classification performance. We also showed that, if the conditions are violated, using unlabeled data can be detrimental to **classification performance**. We discussed the implications of this analysis to a specific type of probabilistic classifiers, **Bayesian networks**, and proposed a new **structure learning algorithm** that can utilize unlabeled data to improve classification. Finally, we showed how the resulting algorithms are successfully employed in three applications related to human-computer interaction and pattern recognition: **facial expression recognition, face detection, and skin detection**. This research was conducted together with **Prof. Thomas Huang**, and his students.

*Leiden University, The Netherlands*

*Assistant Professor, LIACS Media Lab*

01/04/2001 – 30/04/2003

My research addressed the problem of **context-based object-class recognition and retrieval**. We developed a new framework for characterizing and retrieving objects in cluttered scenes. This CBIR system was based on a new representation describing every object taking into account the local properties of its parts and their mutual spatial relations, without relying on accurate segmentation. We considered two stages. The first one was to allow an efficient retrieval based on the geometric properties (shape) of objects in images with clutter. This was achieved by using a **contextual descriptor** that incorporates the distribution of local structures, and by taking a proper distance that disregards the clutter of the images. At a second stage, we introduced a more discriminative descriptor that characterized the parts of the objects by their color and their local structure. By using **relevant-feedback and boosting** as a **feature selection algorithm**, our system was able to learn simultaneously the information that characterizes each part of the object along with their mutual spatial relations.

*Leiden University, The Netherlands*

*Ph.D. Research, LIACS Media Lab*

01/04/1997 – 31/03/2001

My research addressed the problem of **similarity metrics in computer vision in a maximum likelihood framework**. Many visual matching algorithms can be described in terms of the features and the inter-feature distance or metric. The most commonly used metric is the sum of squared differences SSD (Euclidean distance) which is valid from a maximum likelihood perspective when the real noise distribution is Gaussian. However, we have found experimentally that the Gaussian noise distribution assumption is often invalid and this implies that other metrics, which have distributions closer to the real noise distribution, should be used instead. This research considered three visual matching applications: content-based retrieval, stereo matching and motion tracking and introduced a novel framework to detect the optimal similarity metric in the presence of ground truth. Besides providing an analysis of some of the most commonly used metrics SSD, SAD, Cauchy, etc, in the case where sufficient training data was available we discussed and experimentally tested a new metric based directly on the real noise distribution, which we denoted the maximum likelihood metric.

## Teaching Experience

*University of Trento*

2009 - present

**Computational Vision.** Master level course covering the basic concepts in computer vision. The course discusses several topics on low-level image analysis methods, including image formation, edge detection, color analysis, feature detection, and image segmentation. Further, it addresses advanced topics including methods for reconstructing three-dimensional scene information using techniques such as depth from stereo, structure from motion, and shape from shading. Finally, the course presents the techniques for motion and object recognition approaches.

**Computational Methods for Data Analysis.** Machine learning is the essential key in solving complex problems in several research areas such as HCI, pattern recognition, natural language processing, computer vision, etc. The goal of this master level course is to provide the basic elements in machine learning that allow the students to understand further problems in the abovementioned areas. The course covers several important topics including clustering, classification, Support Vector Machines, Bayesian Networks, etc.

**Multimedia Systems and Human Computer Interaction.** This is a master level course addressing the current trends in multimedia computing. The course takes a holistic approach toward developing human-centered vision systems. The aim is to identify the important research issues, and to ascertain potentially fruitful future research directions in relation to the multimodal information and to human-computer interaction. In particular, the course introduces key concepts, discuss technical approaches, and open issues in three areas: (1) multimedia data: conceptual analysis at different levels (feature, cognitive, and affective), (2) media databases, indexing, and retrieval: context modeling, cultural issues, and machine learning for user-centric approaches; and (3) multimodal interaction: visual (body, gaze, gesture) and audio (emotion) analysis;

**Teorie e tecniche di riconoscimento (Pattern Recognition).** This is a bachelor level course meant to provide introductory knowledge of both theoretical and practical aspects of machine learning. The goal is to prepare the students with the basic knowledge and to show applications of machine learning techniques to real world problems.

*University of Amsterdam, Faculty of Science*

2003 - 2008

**Multimedia Information Systems.** Master level course which focuses on the current issues in Multimedia Content Analysis. It covers the main problems and challenges in video analysis, including shot-break detection, video summarization and browsing, higher-level semantic and affective analysis, human-computer interaction issues, the use of computer graphics techniques in video production, and several learning strategies. The course has been designed, developed, and lectured by me. Voted by the students as **the most interesting course** in 2007.

**Multimedia Information Systems Project.** Master level practical course in which the students are asked to prepare a research proposal on emerging technologies in multimedia (free choice). The goal is to give the students the ability to write scientific proposals and the skills to review the proposals written by others. Every student is preparing a final project proposal which is presented in front of the whole class and each research proposal is reviewed by me and the other students.

*Leiden University, Computer Science Department*

2001 - 2003

**Multimedia Systems.** This was a third year undergraduate course which focused on the following topics in multimedia systems: speech recognition, robotics, human computer interaction, image analysis, digital video, virtual worlds, and the WWW. Voted by the students as **the most interesting course** in 2002 and 2003.

**Computer Graphics.** This was a third year undergraduate course. The goal of this course was to create a foundation for understanding the current and future technology underlying computer graphics. The intention was to create a synergistic mixture of theory and practice. Specific subjects that were covered were: 3D Modeling, 3D Lighting & Effects, Real Time Rendering, Ray tracing, Advanced techniques & Texture Mapping

**Information Theory.** This was a second year undergraduate course. This course focused on the theoretical conditions required for optimal transmission and storage of data. On the basis of simple concepts from probability calculus, models are developed for the information source and

the communication channel in general. Further, the theoretical basics for developing source coding algorithms are provided and some of the existing, widely-used algorithms are explained in detail. Also, the protection of information against errors in the communication channel is treated, as well as the problem of information transmission through networks.

<i>Technical University of Valencia</i>	2012-2015
<i>University of Lugano</i>	1/2008
<i>University of Modena</i>	6/2007
<i>Vienna Institute of Technology</i>	12/2005

**Human-centered Multimedia Systems.** Graduate (doctoral) level intensive course on technical analysis and interaction techniques formulated from the perspective of key human factors in a user-centered approach. The course introduces the key concepts, discuss technical approaches and open issues in three areas: (1) multimedia data: conceptual analysis at different levels (feature, cognitive, and affective); (2) indexing algorithms: context modeling, cultural issues, and machine learning for user-centric approaches; (3) multimodal interaction: visual (body, gaze, gesture) and audio (emotion) analysis.

<i>Tutorials</i>	2004 - present
20+ tutorials or short courses presented at the leading conferences in Computer Vision (CVPR, ICCV, ACCV), Multimedia (ACM Multimedia, ICME), Pattern Recognition (ICPR), Image Processing (ICIP), etc. and several summer schools.	

## **Doctoral Thesis (Co)Supervisor**

1. Roberto Valenti, graduated 2011 (with T. Gevers)
2. Bogdan Tudor Goras, graduated 2011 (with L. Goras)
3. Radu Vieriu, graduated 2012 (with L. Goras)
4. Zhigang Ma, graduated 2013
5. Jacopo Staiano, graduated 2014
6. Yan Yan, graduated 2014
7. Paolo Rota, graduated 2015 (with N. Conci)
8. Gloria Zen, graduated 2015
9. Andreza Sartori, graduated 2015
10. Julia Wache, graduated 2016
11. Pouya Ghaemmaghami, graduated 2017
12. Negar Rostamzadeh, graduated 2017
13. Mojtaba Khomami Abadi, graduated 2017
14. Sergey Tulyakov, graduated 2017
15. Gaowen Liu, graduated 2017
16. Ionut Duta graduated 2017
17. Wei Wang, graduated 2018
18. Dan Xu, graduated 2018 (with Elisa Ricci)
19. Mihai Puscas, graduated 2019
20. Marco De Nadai, graduated 2019 (with Bruno Lepri)
21. Andrea Pilzer, graduated 2020
22. Cveta Majtanovic, expected 2020
23. Hao Tang, expected 2021
24. Aliaksander Siarohin, expected 2021
25. Alexander Ermolov, expected 2022
26. Subhankar Roy, expected 2022 (with Elisa Ricci)
27. Yahui Liu, expected 2022 (with Bruno Lepri)
28. Jichao Zhang, expected 2023

29. Cristiano Saltori, expected 2023 (with Elisa Ricci)
30. Victor Turrisi da Costa, expected 2023
31. Yue Song, expected 2024
32. Cong Wang, expected 2024 (with Bruno Lepri)

## **Professional activities**

- Department Head, Department of Information Engineering and Computer Science, University of Trento, 2015-2019
- Coordinator, Doctoral School on Information and Communication Technology, University of Trento, 2012 - 2015
- Coordinator, Master Program on Cognitive Sciences (in charge of the Multimodal Interaction track), Faculty of Cognitive Sciences, University of Trento, 2009-2012
- Coordinator, Master Program in Artificial Intelligence (in charge of the Intelligent Systems track), University of Amsterdam, 2005-2009.
  
- Fellow International Association for Pattern Recognition (IAPR) – 2012.
- Senior Member IEEE – 2011
- Senior Member ACM – 2009.
- Director of Conferences, ACM SIGMM (elected officer 2013-2016).
- Co-chair of the IEEE Computer Society task force on Human-centered Computing (with Alejandro Jaimes, Nahum Gershon, Daniel Gatica-Perez)
- Member of the IEEE Signal Processing Society Multimedia Signal Processing Technical Committee (MMSP TC)

## **Editorial and coordination activities**

- ACM Transactions on Multimedia Computing, Communications, and Applications – Advisory Board (since July 2017)
- ACM Transactions on Intelligent Systems and Technology – Associate Editor (since June 2015)
- International Journal of Human Computer Studies – Associate Editor (November 2013 – December 2018)
- Computer Vision and Image Understanding – Associate Editor (since June 2012)
- IEEE Transactions on Multimedia – Associate Editor (April 2009 – April 2017)
- Machine Vision and Applications - Associate Editor (since July 2007)
- Image and Vision Computing – Associate Editor (since September 2006)
- Journal of Electronic Imaging – Associate Editor (October 2008 – April 2012)
- Journal of Ambient Intelligence and Smart Environments – Advisory Board
  
- Guest Editor for IEEE Transactions on Circuits and Systems for Video Technology, Special Issue on Advanced Machine Learning Methodologies for Large-Scale Video Object Segmentation and Detection (together with J. Han and D. Zhang), Fall 2021
- Guest Editor for ACM Transactions on Multimedia, Special Issue on Fine-Grained Visual Recognition and re-IDentification (together with S. Zhang, G. Li, W. Zhang, Q. Huang, T. Huang, M. Shah), Fall 2021
- Guest Editor for ACM Transactions on Multimedia, Special Issue on Explainable AI for Multimedia Computing (together with W.-H. Cheng, J. Liu, J. Yuan, H.-H. Shuai), Fall 2021
- Guest Editor for IEEE Transactions on Neural Networks and Learning Systems, Special Issue on Deep Learning for Anomaly Detection (together with G. Pang, C. Aggarwal, C. Shen), Spring 2021

- Guest Editor for Pattern Recognition, Special Issue on Explainable Deep Learning for Efficient and Robust Pattern Recognition (together with X. Bai, B. Kim, Q. Liu, X. Liu, J. Song), Spring 2020
- Guest Editor for IEEE Transactions on Pattern Analysis and Machine Intelligence, Special Issue on Fine-grained Visual Categorization (together with J. Wang, Z. Tu, J. Fu, S. Belongie), Fall 2019.
- Guest Editor for Computer Vision and Image Understanding, Special Issue on Adversarial Learning in Computer Vision (together with C. Vondrick, C. Spampinato, M.-H. Yang, M.-Y. Liu, S. Palazzo), Fall 2019.
- Guest Editor for IEEE Transactions on Pattern Analysis and Machine Intelligence, Special Issue on Best of ICCV 2017 (together with R. Cucchiara, Y. Matsushita, and S. Soatto), Fall 2019.
- Guest Editor for International Journal of Computer Vision, Special Issue on Generating Realistic Visual Data of Human Behavior (together with X. Alameda-Pineda, A. Salah, E. Ricci, S. Yan), vol 128, issue 5, May 2020.
- Guest Editor for ACM Transactions on Multimedia, Special Section on Multimodal Understanding of Social, Affective and Subjective Attributes (together with X. Alameda-Pineda, M. Redi, M. Soleymani, S.-F. Chang, and S. Gosling), vol. 15, issue 1, February 2019.
- Guest Editor for International Journal of Computer Vision, Special Issue on Novel Representations and Learning Methods in Computer Vision (together with J. Matas, and B. Liebe), vol. 126, issue 10, October 2018.
- Guest Editor for the IEEE Transactions on Pattern Analysis and Machine Intelligence, Special Issue on Learning with Shared Information for Computer Vision and Multimedia Analysis (together with T. Darell, C. Lampert, Y. Wu, and Y. Yan), vol. 40, issue 5, May 2018.
- Guest Editor for the IEEE Multimedia, Special Issue on New Signals in Multimedia Systems and Applications: Sensing and Understanding Human Behavior and Interactions (together with P. Cesar, V. Singh, R. Jain, and N. Oliver), vol. 25, issue 1, January-March, 2018
- Guest Editor for IEEE Transactions on Multimedia, Special Issue on Large-Scale Multimedia Data Retrieval, Classification, and Understanding (together with J. Song, H. Jegou, C. Snoek, and Q. Tian), vol. 19, issue 9, September 2017.
- Guest Editor for the Image and Vision Computing Journal, Special Issue on Event-based Media Processing and Analysis (together with B. Ionescu, G. Boato, Z. Ma, Y. Kompatsiaris, and S. Yan), vol. 53, September 2016.
- Guest Editor for the Journal of Multimodal User Interfaces, Special Issue on Emotion Recognition in the Wild (together with A. Dhall, R. Goecke, and T. Gedeon), vol. 10, issue 2, June 2016.
- Guest Editor for the IEEE Transactions on Big Data, Special Issue on Big Media Data: Understanding, Search, and Mining (together with J. Wang, G.-J. Qi, and C. Aggarwal), vol. 1, issue 3 & issue 4, July-September & October-December, 2015.
- Guest Editor for Machine Vision and Applications, Special Issue on Contextual Visual Computing (together with R. Hong and Q. Tian), vol. 25, issue 7, October 2014.
- Guest Editor for IEEE Multimedia, Special Issue on Large Scale Geo-Social Multimedia Computing (with R. Ji, Y. Yang, K. Aizawa, L. Cao), vol. 21, issue 3, July-September 2014.
- Guest Editor for IEEE Transactions on Multimedia, Special Issue on Socio-Mobile Media Analysis and Retrieval (together with A. Del Bimbo, K. Selcuk Candan, Y-G. Jiang, J. Luo, T. Mei, H. T. Shen, C. Snoek, and R. Yan), vol. 16, issue 3, April 2014.
- Guest Editor for Computer Vision and Image Understanding, Special Issue on Learning from Multiple Evidences for Large Scale Multimedia Analysis (together with Y. Yang, C. Snoek, X-S. Hua, and Y. Zhuang), vol. 118, issue 1, January 2014.
- Guest Editor for International Journal of Computer Vision, Special Issue on Human-Computer Interaction: Real-Time Vision Aspects of Natural User Interfaces (together with Z. Zivkovic, H. Aghajan, and B. Kisacanin), vol. 101, issue 3, February 2013.

- Guest Editor for the Journal of Visual Communication and Image Representation, Special Issue on Large-Scale Multimedia Search (together with K. Aizawa, T. Mei, M. Wang, and J. Li), vol. 21, issue 8, November 2010.
- Guest Editor for the IEEE Transactions on Multimedia, Special issue on Multimodal Affective Interaction (together with H. Aghajan, T. Huang, N. Magnenat-Thalmann, C. Shan), vol. 12, issue 6, October 2010.
- Guest Editor for the Image and Vision Computing Journal, Special Issue on Face and Gesture Recognition (together with Maja Pantic), vol. 28, nr. 5, May 2010.
- Guest Editor for the ACM Transactions on Multimedia Computing, Communications, and Applications, Special Issue on Multimedia Analysis (together with A. Hanjalic and B. Bailey), vol. 5, nr. 1, October 2008.
- Guest Editor for Computer Vision and Image Understanding, Special Issue on Similarity Matching in Computer Vision and Multimedia (together with Q. Tian, M. Lew, and T. Huang), vol. 110, nr. 3, June 2008.
- Guest Editor for the Image and Vision Computing Journal, Special Issue on Human-computer Interaction in Computer Vision (together with M. Lew and T. Huang), vol. 25, issue 12, December 2007.
- Guest Editor for the IEEE Computer, Special Issue on Human-centered Computing (together with A. Jaimes, D. Gatica-Perez, and T. Huang), vol. 40, nr. 5, May 2007.
- Guest Editor for the ACM Transactions on Multimedia Computing, Communications, and Applications, Special Issue on Multimedia Information Systems (together with M. Lew and C. Djeraba), vol. 2, nr. 1, February 2006.
- Guest Editor for the ACM Multimedia Systems Journal, Special Issue on Systems and Architectures of Multimedia Information Retrieval (together with M. Lew and C. Djeraba), vol. 10, nr. 6, October 2005.
- Guest Editor for Computer Vision and Image Understanding, Special Issue on Video Retrieval and Summarization (together with M. Lew and A. Smeulders), vol. 92, nr. 2-3, November/December 2003.

### Conference organization<sup>1</sup>

- Program Chair, European Conference on Computer Vision (ECCV), Milan, October 2024 (**A ranking**).
- General Chair International Conference on Multimodal Interfaces (ICMI), Bengaluru, November 2022 (**B ranking**)
- General Chair, ACM Multimedia, Lisbon, October 2022 (**A\* ranking**).
- Program Chair, International Conference on Pattern Recognition (ICPR), Milan, January 2021 (**B ranking**).
- General Chair, International Conference on Image Analysis and Processing, Trento, September 2019
- Program Chair, IEEE International Conference on Multimedia Big Data, Xi'an, September 2018.
- Program Chair, International Conference on Computer Vision (ICCV), Venice, October 2017 (**A\* ranking**).
- General Chair, International Conference on Multimedia Retrieval (ICMR), Bucharest, June 2017 (**B ranking**).
- Program Chair, European Conference on Computer Vision (ECCV), Amsterdam, October 2016 (**A ranking**).
- General Chair, International Conference on Multimedia Modelling, Miami, January 2016 (**C ranking**).
- General Chair, ACM Multimedia, Barcelona, October 2013 (**A\* ranking**).

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<sup>1</sup> Ranking according to the Australian Ranking of Core Conferences: A\* - Flagship conference, A – Excellent conference, B – Good Conference, C – Other ranked conferences

- General Chair, International Conference on Affective Computing and Intelligent Interaction (ACII), Geneva, September 2013 (**C ranking**).
  - Program Chair, International Conference on Multimedia Modelling, Huangshan, January 2013 (**C ranking**).
  - Program Chair International Conference on Multimodal Interfaces (ICMI), Alicante, November 2011 (**B ranking**)
  - Program Chair, ACM Multimedia, Scottsdale, December 2011 (**A\* ranking**).
  - General Chair of the International Conference on Image and Video Retrieval (CIVR), Beijing, July 2010 (**B ranking**).
  - General Chair 8<sup>th</sup> IEEE International Conference on Automatic Face and Gesture Recognition, Amsterdam, September 2008 (**C ranking**).
  - Program Chair ACM Multimedia, Augsburg, September 2007 (**A\* ranking**).
  - General Chair International Conference on Image and Video Retrieval (CIVR), Amsterdam, July 2007 (**B ranking**).
  - General Chair IS&T/SPIE Conference on Storage and Retrieval Methods and Applications for Multimedia, San Jose, CA, January 2007 (**C ranking**).
  - General Chair IS&T/SPIE Conference on Storage and Retrieval Methods and Applications for Multimedia, San Jose, CA, January 2006 (**C ranking**).
  - Program chair of the 2<sup>nd</sup> International Conference on Image and Video Retrieval, CIVR'2003, Urbana-Champaign, USA, July 24-25, 2003 (**B ranking**).
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- Area Chair European Conference on Computer Vision (ECCV), Glasgow (UK), September 2020 (**A\* ranking**).
  - Area Chair British Machine Vision Conference (BMVC), Manchester (UK), September 2020
  - Area Chair IEEE International Conference on Automatic Face & Gesture Recognition, Buenos Aires (Argentina), May 2020.
  - Area Chair British Machine Vision Conference (BMVC), Cardiff (UK), September 2019
  - Area Chair for IEEE/CVF International Conference on Computer Vision and Pattern Recognition (CVPR), Long Beach (USA), June 2019 (**A\* ranking**).
  - Area Chair ACM Multimedia, Seoul (Korea), October 2018 (**A\* ranking**).
  - Area Chair European Conference on Computer Vision (ECCV), Munchen (Germany), September 2018 (**A\* ranking**).
  - Area Chair IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), Honolulu (USA), July 2017 (**A\* ranking**).
  - Area Chair IEEE International Conference on Computer Vision (ICCV), Santiago (Chile), December 2015 (**A\* ranking**).
  - Area Chair ACM Multimedia, Brisbane (Australia), October 2015 (**A\* ranking**).
  - Area Chair ACM Multimedia, Nara (Japan), October 2012 (**A\* ranking**).
  - Area Chair Asian Conference on Computer Vision (ACCV), Queenstown (NZ), November 2010 (**B ranking**).
  - Track Chair International Conference on Pattern Recognition (ICPR), Istanbul, August 2010 (**B ranking**).
  - Area Chair European Conference on Computer Vision (ECCV), Heraklion, September 2010 (**A ranking**).
  - Area Chair Asian Conference on Computer Vision (ACCV), Xian, September 2009 (**B ranking**).
  - Track Chair International World Wide Web conference (WWW), Madrid, April 2009 (**A\* ranking**).
  - Area Chair IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), Anchorage, USA, June 2008 (**A\* ranking**).



## Workshop organization

- Chair Workshop on Fine-Grained Visual Recognition and re-Identification (FGVRID), in conjunction with the International Conference on Pattern Recognition, Milan, January 2021.
- Chair Workshop on Fairness, Accountability, Transparency and Ethics in Multimedia, in conjunction with ACM International Conference on Multimedia, Seattle, October 2020.
- Chair Workshop and Challenge on Large-scale Human-centric Video Analysis in Complex Events, in conjunction with ACM International Conference on Multimedia, Seattle, October 2020.
- Chair Workshop on Real-world Recognition from Low-quality Images and Videos, in conjunction with the European Conference on Computer Vision, Glasgow, August 2020.
- Chair Joint Workshop on Long Term Visual Localization, Visual Odometry and Geometric and Learning-based SLAM, in conjunction with the IEEE/CVF Conference on Computer Vision and Pattern Recognition, Seattle, June 2020.
- Chair 1<sup>st</sup> Workshop on Intelligent Short-Video, in conjunction with the IEEE International Conference on Computer Vision, Seoul, October 2019.
- Chair 10<sup>th</sup> International Workshop on Human Behavior Understanding, in conjunction with the IEEE International Conference on Computer Vision, Seoul, October 2019.
- Chair Workshop on Fairness Accountability and Transparency in Multimedia in conjunction with the ACM International Conference on Multimedia, Nice, October 2019.
- Chair Workshop on Visual Artificial Intelligence and Entrepreneurship in conjunction with the British Machine Vision Conference, Cardiff, September 2019.
- Chair 3<sup>rd</sup> Workshop on Visual Odometry and Computer Vision Applications Based on Location Clues, in conjunction with the IEEE/CVF Conference on Computer Vision and Pattern Recognition, Long Beach, June 2019.
- Chair Workshop on Understanding Subjective Attributes of Data: Focus on Fashion and Subjective Search, in conjunction with the IEEE/CVF Conference on Computer Vision and Pattern Recognition, Long Beach, June 2019.
- Chair Workshop on Understanding Subjective Attributes of Data: Multimodal Recognition of Evoked Emotions, in conjunction with the ACM International Conference on Multimedia, Seoul, October 2018.
- Chair International Workshop on Human Behavior Understanding: Generating Visual Data of Human Behavior, in conjunction with the European Conference on Computer Vision, Munchen, September 2018.
- Chair Workshop on Understanding Subjective Attributes of Data: Visual Understanding, in conjunction with the IEEE Conference on Computer Vision and Pattern Recognition, Salt Lake City, June 2018.
- Chair 2<sup>nd</sup> Workshop on Visual Odometry and Computer Vision Applications Based on Location Clues, in conjunction with the IEEE Conference on Computer Vision and Pattern Recognition, Salt Lake City, June 2018.
- Chair ACM Workshop on Multimodal Understanding of Social, Affective and Subjective Attributes (MUSA), in conjunction with the ACM International Conference on Multimedia, Mountain View, October 2017.
- Chair Workshop on Visual Odometry and Computer Vision Applications Based on Location Clues, in conjunction with the IEEE Conference on Computer Vision and Pattern Recognition, Honolulu, July 2017.
- Chair Workshop on Computer Vision for Affective Computing (CV4AC), in conjunction with the Asian Computer Vision Conference, Taipei, November 2016.
- Chair Workshop on 3D Face Alignment in the Wild & Challenge (3DFAW), in conjunction with the European Conference on Computer Vision, October 2016.
- Chair Workshop on Image and Video Processing for Quality of Multimedia Experience (QOEM), in conjunction with the International Conference on Image Analysis and Processing, September 2015.

- Chair Dagstuhl Seminar on Cross-Lingual Cross-Media Content Linking: Annotations and Joint Representations, May 2015.
- Chair Workshop on Computer Vision for Affective Computing (CV4AC), in conjunction with the Asian Computer Vision Conference, Singapore, November 2014.
- Chair ACM Workshop on Multimodal Pervasive Video Analysis (MPVA), in conjunction with the ACM International Conference on Multimedia, Florence, Italy, October 2010.
- Chair International Workshop on Human Behavior Understanding - in conjunction with the International Conference on Pattern Recognition (ICPR), Istanbul, August 2010.
- Chair 5<sup>th</sup> International Workshop on Human Computer Interaction (HCI09) - in conjunction with the IEEE International Conference on Computer Vision (ICCV 2009), Kyoto, Japan, September 2009.
- General Co-Chair 10<sup>th</sup> International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS), London, May 2009.
- Chair 4<sup>th</sup> International Workshop on Human Computer Interaction (HCI07) - in conjunction with the IEEE International Conference on Computer Vision (ICCV 2007), Rio de Janeiro, Brazil, October 20, 2007.
- Chair Human-centered Multimedia Workshop (HCM'07) – in conjunction with the ACM Multimedia Conference (ACM MM 2007), Augsburg, Germany, September 2007.
- Program Co-Chair International Workshop on Multimedia Content Analysis and Mining (MCAM), WeiHai, China, June 2007.
- Chair Human-centered Multimedia Workshop (HCM'06) – in conjunction with the ACM Multimedia Conference (ACM MM 2006), Santa Barbara, USA, October 2006.
- Chair 3<sup>rd</sup> International Workshop on Human Computer Interaction (HCI06) - in conjunction with the European Conference on Computer Vision (ECCV 2006), Graz, Austria, May 13, 2006.
- Chair 2<sup>nd</sup> IEEE International Workshop on Human Computer Interaction (HCI05) - in conjunction with the International Conference on Computer Vision (ICCV 2005), Beijing, China, October 21, 2005.
- Chair 6<sup>th</sup> ACM SIGMM International Workshop on Multimedia Information Retrieval (MIR04) - in conjunction with ACM Multimedia 2004, New York, USA, October 2004.
- Chair 1<sup>st</sup> International Workshop on Human Computer Interaction (HCI04) - in conjunction with the European Conference on Computer Vision (ECCV 2004), Prague, Czech Republic, May 15, 2004.
- Chair 5<sup>th</sup> ACM SIGMM International Workshop on Multimedia Information Retrieval (MIR03) - in conjunction with ACM Multimedia 2003, Berkeley, USA, November 7, 2003.

### **Tutorials and Courses**

- Tutorial on Multimodal human behavior analysis in the wild: Recent advances and open problems, International Conference on Pattern Recognition, Cancun, December 2016 (**B ranking**).
- Tutorial on Emerging Topics in Learning from Noisy and Missing Data, ACM Multimedia, Amsterdam, October 2016 (**A\* ranking**).
- Short course on Social Signal Processing, IEEE Summer School of Signal Processing, Garda Lake, September 2015.
- Short course on From Concepts to Events: A Progressive Process for Multimedia Content Analysis, Summer School on Evolving Semantic Systems, Edinburgh, August 2015.
- Short course on Human-centered Computing: Challenges and Perspectives, SSPNet Summer School, Vietri sul Mare, June 2013.
- Short course on Human-centered Computing: Challenges and Perspectives, 11<sup>th</sup> Summer School on Advanced Studies on Biometrics for Secure Authentication, Alghero, June 2012.
- Tutorial on Human-centered Vision Systems, Asian Conference on Computer Vision, Queenstown, November 2010 (**B ranking**).

- Tutorial on Human-centered Vision Systems: Context-driven Algorithm Design, IEEE Conference on Computer Vision and Pattern Recognition, San Francisco, June 2010 (**A\* ranking**).
- Tutorial on Human-centered Vision Systems, IEEE International Conference on Computer Vision, Kyoto, September 2009 (**A\* ranking**).
- Tutorial on Human-centered Vision Systems, International Conference on Image Analysis and Processing (ICIAP), Vietri sul Mare, September 2009 (**B ranking**).
- Tutorial on Human-centered Computer Vision Systems, IEEE International Conference on Computer Vision, Rio de Janeiro, October 2007 (**A\* ranking**).
- Tutorial on Image and Video Retrieval, IEEE International Conference on Computer Vision, Rio de Janeiro, October 2007 (**A\* ranking**).
- Tutorial on Human-centered Multimedia, ACM Multimedia, Augsburg, September 2007 (**A\* ranking**).
- Tutorial on Image and Video Retrieval, International Conference on Image Processing (ICIP), San Antonio, September 2007 (**B ranking**).
- Tutorial on Image and Video Retrieval, International Conference on Image Analysis and Processing (ICIAP), Modena, September 2007 (**B ranking**).
- Tutorial on Human-centered Multimedia, IEEE International Conference on Multimedia and Expo (ICME), Beijing, July 2007 (**B ranking**).
- Tutorial on Image and Video Retrieval, IEEE International Conference on Multimedia and Expo (ICME), Beijing, July 2007 (**B ranking**).
- Tutorial on Human-Centered Methods, International Conference on Pattern Recognition (ICPR), Hong Kong, August 2006 (**B ranking**).
- Tutorial on Image and Video Retrieval, International Conference on Pattern Recognition (ICPR), Hong Kong, August 2006 (**B ranking**).
- Intensive course on Multimedia Information Systems, 13th International Summer School in Novel Computing, Joensuu, Finland, August 2006.
- Tutorial on Human-Centered Vision Systems, IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), New York, June 2006 (**A\* ranking**).
- Intensive course on Feature Extraction and Content Description, joint DELOS-MUSCLE summer school on Multimedia Digital Libraries, San Vincenzo, Italy, June 2006.
- Tutorial on Image and Video Retrieval, IS&T/SPIE Conference on Internet Imaging, San Jose, CA, January 2006.
- Tutorial on Human-Centered Multimedia Information Systems, ACM Multimedia, Singapore, November 2005 (**A\* ranking**).
- Tutorial on Human-Centered Vision Systems, IEEE International Conference on Computer Vision (ICCV), Beijing, October 2005 (**A\* ranking**).
- Tutorial on Human-Centered Multimedia Information Systems, IEEE Conference on Multimedia and Expo (ICME), Amsterdam, The Netherlands, July 2005 (**B ranking**).
- Tutorial on Image and Video Retrieval, IS&T/SPIE Conference on Internet Imaging, San Jose, CA, January 2005.
- Tutorial on Human-Centered Multimedia Information Systems, 5<sup>th</sup> Pacific Rim Conference on Multimedia, Tokyo, Japan, December 2004.

## Keynote Presentations

- 10th Conference on Articulated Motion and Deformable Objects, Palma, Mallorca, July 2018
- 2nd Conference on Recent Advances in Artificial Intelligence, Bucharest, June, 2018
- International Conference on Multimedia Modeling, Bangkok, February 2018
- International Conference on Image Analysis and Processing, Catania, September 2017.
- International Conference on Internet Multimedia Computing and Service (ICIMCS), Xi'an, August 2016.

- “Things and stuff: A Computer Vision Perspective”, Ninth Conference on Image Information Mining, Bucharest, March 2014.
- French Image Processing and Pattern Recognition Conference, RFIA, Caen, France, January 2010.
- Audio-Visual Signal processing for Advanced Multimodal Interfaces Workshop, Malaga, Spain, February 2008.
- IEEE International Workshop on Ambient Intelligence, Media, and Sensing (AIMS07), Istanbul, Turkey, April 2007.
- European Commission Workshop on Multimodal Interfaces, Luxembourg, December 2006.
- IS&T/SPIE Conference on Internet Imaging, San Jose, CA, January 2005.

## Scholarships and prizes

- Best Paper Award for IEEE Transactions on Affective Computing, for ASCERTAIN: Emotion and Personality Recognition using Commercial Sensors, 2019
- Italian Association on Pattern Recognition (CVPL/GIRPR) award for the best PhD thesis (PhD student Wei Wang), 2018
- Second best student paper award (PhD student Mahdyar Ravan) - *International Conference on Image Processing (ICIP'17)*
- Best paper award, ACM Multimedia 2015
- ACM SIGMM Outstanding PhD Thesis Award 2014 (PhD student Zhigang Ma)
- Italian Association on Pattern Recognition (GIRPR) award for the best PhD thesis (PhD student Zhigang Ma), 2014
- Best PhD Thesis Award in ICT, University of Trento 2014 (PhD student Zhigang Ma)
- Best paper award – *ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp'14)*
- Best student paper award (PhD student Yan Yan) - *International Conference on Pattern Recognition (ICPR'14)*
- Best honorable mention – *ACM Conference on Designing Interactive Systems (DIS'12)*, Newcastle, UK, June 2012
- Best Associate Editor award – *Image and Vision Computing*, 2010
- Best reviewer award – *Asian Conference on Computer Vision (ACCV)*, 2007
- Research fellowship at British Telecom Labs, UK, 2002.
- Best paper runner up – *British Machine Vision Conference (BMVC)*, Manchester, UK, September 2001.
- Best paper award - *4th International Conference on Advances in Visual Information Systems (Visual'00)*, Lyon, France, November 2000.
- Visiting research grant (6 months) offered by Darmstadt University of Technology (1996-1997).
- Best Student Paper Award – IEEE International Conference on Semiconductors (CAS'96).

## Visiting Professorships

- July 2014, University of Central Florida, in the group on Prof. Mubarak Shah
- January/February 2008 visiting professor at University of Lugano, in the group of Prof. Dr. Fabio Crestani.
- May/June 2007 visiting professor at Sabanci University, Istanbul, in the group of Prof. Dr. A. Ercil, supported by a grant of European Commission.
- June/July 2006 visiting professor at University of Modena, in the group of Prof. Dr. Rita Cucchiara.
- December 2005 visiting professor at Vienna University of Technology, in the group of Prof. Dr. W. Kropatsch, supported by a grant of Dutch Science Foundation.

- May/September visiting professor at Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign in the group of Prof. Dr. T.S. Huang, supported by a grant of Philips Research in The Netherlands.
- 1.12.2002 – 1.02.2003 fellow at British Telecom Labs in Ipswich, UK.
- October/December 2001 visiting professor at Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign in the group of Prof. Dr. T. S. Huang, supported by a grant of Philips Research in The Netherlands.
- 1.10.1999 - 31.12.1999 visiting researcher at Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign in the group of Prof. Dr. T. S. Huang, supported by a grant of Philips Research in The Netherlands.
- 1.07.1996 - 1.10.1996 visiting researcher at the Department of Electrical Engineering and Information Technology, TU Darmstadt in the group of Prof. Dr. M. Glesner.
- 1.10.1995 - 31.12.1995 visiting researcher at the Department of Electrical Engineering and Information Technology, TU Darmstadt in the group of Prof. Dr. M. Glesner.

## Media Coverage

- MIT Technology Review, March 24, 2016, Data Mining Reveals the Four Urban Conditions That Create Vibrant City Life, <https://www.technologyreview.com/s/601107/data-mining-reveals-the-four-urban-conditions-that-create-vibrant-city-life>
- Ci – Corriere Innovazione, Occhi Puntati sugli Spettatori, December 7, 2013, <http://www.unitn.it/files/download/33086/occhisuglispettatori.pdf>
- MIT Technology Review, September 26, 2013, How Images Become Viral on Google+ <http://www.technologyreview.com/view/519611/how-images-become-viral-on-google>
- La Stampa, Il tuo smartphone ti osserva e studia cosa fai e cosa pensi, April 17, 2013, <http://www.lastampa.it/2013/04/17/scienza/tuttoscienze/il-tuo-smartphone-ti-osserva-e-studia-cosa-fai-e-cosa-pensi-vIACZdp8UvL99ZCKt1VmTK/pagina.html>
- The New Scientist, Computers identify what makes abstract art move us, November 16, 2012, <http://www.newscientist.com/article/mg21628916.000-computers-identify-what-makes-abstract-art-move-us.html>
- Wired, Emotion-Recognition Software Knows What Makes You Smile, July 16, 2007, [http://www.wired.com/science/discoveries/news/2007/07/expression\\_research](http://www.wired.com/science/discoveries/news/2007/07/expression_research)
- CNN, Computer decodes Mona Lisa's smile, December 16, 2006, <http://edition.cnn.com/2005/TECH/12/16/mona.lisa.smile/>
- The New Scientist, Software decodes Mona Lisa's enigmatic smile, December 15, 2005, <http://www.newscientist.com/article/mg18825305.200-software-decodes-mona-lisas-enigmatic-smile.html>
- The Guardian, Great Art: A Machine's view, December 21, 2005, <http://www.theguardian.com/artanddesign/2005/dec/21/art1>
- Time Magazine, Mona Lisa Secrets, Oct. 9, 2006, <http://content.time.com/time/magazine/article/0,9171,1541284,00.html>
- "Coupez le Son! Le Charisme Politique", DVD, Mona Lisa Production Ina, April 2007, <http://www.linternaute.com/video/70011/coupez-le-son-le-charisme-politique/>
- BBC Boston Radio, US, Dec 15, 2005, interview
- Newstalk 106, Dublin, Ireland, Dec. 15, 2005, interview
- BBC Radio 4, Dec. 15, 2005, interview
- BBC World radio, Dec 16, 2005, interview
- London Times Radio, Dec 16, 2005, interview
- Radio Eins/RBB, Germany, Dec 18, 2005, interview
- Radio Tokyo, interview, Dec. 31, 2005, interview

Trento, September 30, 2020

## List of publications

### Books

1. X. Alameda-Pineda, E. Ricci, and N. Sebe (editors), *Multimodal Behavior Analysis in the Wild*, Academic Press, ISBN 9780128146019, November 2018.
2. N. Sebe, I. Cohen, A. Garg, and T. S. Huang, *Machine Learning in Computer Vision*, Springer Verlag, ISBN 1-4020-3274-9, May 2005.
3. N. Sebe and M. S. Lew, *Robust Computer Vision – Theory and Applications*, Kluwer Academic Publishers, ISBN 1-4020-1293-4, April 2003.

### International Journals

1. S. Ghosh, A. Dhall, T. Gideon, and N. Sebe, Automatic Prediction of Group Cohesiveness in Images, *IEEE Transactions on Affective Computing*, DOI: 10.1109/TAFFC.2020.3026095.
2. H. Tang, H. Liu, W. Xiao, and N. Sebe, When Dictionary Learning Meets Deep Learning: Deep Dictionary Learning and Coding Network for Image Recognition with Limited Data, *IEEE Transactions on Neural Networks and Learning Systems*, DOI: 10.1109/TNNLS.2020.2997289.
3. S. Teng, S. Zhang, Q. Huang, and N. Sebe, Multi-View Spatial Attention Embedding for Vehicle Re-Identification, *IEEE Transactions on Circuits and Systems for Video Technology*, DOI: 10.1109/TCSVT.2020.2980283.
4. S. Roy, E. Sangineto, B. Demir, and N. Sebe, Metric-Learning based Deep Hashing Network for Content Based Retrieval of Remote Sensing Images, *IEEE Geoscience and Remote Sensing Letters*, DOI: 10.1109/LGRS.2020.2974629.
5. J. Li, X. Liu, M. Zhang, W. Zhang, J. Song, and N. Sebe, Spatio-Temporal Attention Networks for Action Recognition and Detection, *IEEE Transactions on Multimedia*, DOI: 10.1109/TMM.2020.2965434.
6. W. Wang, X. Alameda-Pineda, D. Xu, E. Ricci, and N. Sebe, Learning How to Smile: Expression Video Generation with Conditional Adversarial Recurrent Nets, *IEEE Transactions on Multimedia*, DOI: 10.1109/TMM.2019.2963621.
7. A. Siarohin, S. Lathuiliere, E. Sangineto, and N. Sebe, Appearance and Pose-Conditioned Human Image Generation using Deformable GANs, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, DOI: 10.1109/TPAMI.2019.2947427.
8. J. Miranda Correa, M. Khomami Abadi, N. Sebe, and I. Patras, AMIGOS: A Dataset for Affect, Personality and Mood Research on Individuals and Groups, *IEEE Transactions on Affective Computing*, DOI: 10.1109/TAFFC.2018.2884461.
9. T. Ganokratanaa, S. Aramvith, and N. Sebe, Unsupervised Anomaly Detection and Localization Based on Deep Spatiotemporal Translation Network, *IEEE Access*, 8(1):50312-50329, December 2020.
10. A. Pilzer, S. Lathuiliere, D. Xu, M. Puscas, E. Ricci, and N. Sebe, Progressive Fusion for Unsupervised Binocular Depth Estimation using Cycled Networks, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 42(10):2380-2395, October 2020.
11. H. Tang, H. Liu, and N. Sebe, Unified Generative Adversarial Networks for Controllable Image-to-Image Translation, *IEEE Transactions on Image Processing*, 29:8916-8929, September 2020.
12. H. Qin, R. Gong, X. Liu, X. Bai, J. Song, and N. Sebe, Binary Neural Networks: A Survey, *Pattern Recognition*, 105, September 2020.
13. H. Yu, G. Li, W. Zhang, Q. Huang, D. Du, Q. Tian, and N. Sebe, The Unmanned Aerial Vehicle Benchmark: Object Detection, Tracking and Baseline, *International Journal of Computer Vision*, 128(5):1141-1159, May 2020.
14. W. Wang, S. Hao, Y. Wei, S. Xiao, J. Feng, and N. Sebe, Temporal Spiking Recurrent Neural Network for Action Recognition, *IEEE Access*, 7(1):117165-117175, December 2019.

15. A. Siarohin, G. Zen, C. Majtanovic, X. Alameda-Pineda, E. Ricci, and N. Sebe, Increasing Image Memorability with Neural Style Transfer, *ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM)*, 15(2), June 2019.
16. D. Xu, E. Ricci, W. Ouyang, X. Wang, and N. Sebe, Monocular Depth Estimation using Multi-Scale Continuous CRFs as Sequential Deep Networks, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 41(6):1426-1440, June 2019.
17. E. Sangineto, M. Nabi, D. Culibrk, and N. Sebe, Self Paced Deep Learning for Weakly Supervised Object Detection, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 41(3):712-725, March 2019.
18. W. Wang, Y. Yan, Z. Cui, J. Feng, S. Yan, and N. Sebe, Recurrent Face Aging with Hierarchical AutoRegressive Memory, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 41(3):654-668, March 2019.
19. H. Tang, W. Xiao, H. Liu, and N. Sebe, Fast and Robust Dynamic Hand Gesture Recognition via Key Frames Extraction and Feature Fusion, *Neurocomputing*, 331:424-433, February 2019.
20. Z. Li, F. Nie, X. Chang, Y. Yang, C. Zhang, and N. Sebe, Dynamic Affinity Graph Construction for Spectral Clustering using Multiple Features, *IEEE Transactions on Neural Networks and Learning Systems*, 29(12):6323-6332, December 2018.
21. W. Wang, S. Tulyakov, and N. Sebe, Recurrent Convolutional Shape Regression, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 40(11):2569-2582, November 2018.
22. S. Tulyakov, L. Jeni, J. Cohn, and N. Sebe, Viewpoint-consistent 3D Face Alignment, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 40(9):2250-2264, September 2018.
23. D. Xu, X. Alameda-Pineda, J. Song, E. Ricci, and N. Sebe, Cross-Paced Representation Learning with Partial Curricula for Sketch-based Image Retrieval, *IEEE Transactions on Image Processing*, 27(9):4410-4421, September 2018.
24. Z. Ma, X. Chang, Z. Xu, N. Sebe, and A. Hauptmann, Joint Attributes and Event Analysis for Multimedia Event Detection, *IEEE Transactions on Neural Networks and Learning Systems*, 29(7):2921-2930, July 2018.
25. W. Wang, Y. Yan, F. Nie, S. Yan, and N. Sebe, Flexible Manifold Learning with Optimal Graph for Image and Video Representation, *IEEE Transactions on Image Processing*, 27(6):2664-2675, June 2018.
26. J. Wang, T. Zhang, J. Song, N. Sebe, and H. T. Shen, A Survey on Learning to Hash, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 40(4):769-790, April 2018.
27. R. Subramanian, J. Wache, M. Khomami Abadi, R. Vieriu, S. Winkler, and N. Sebe, ASCERTAIN: Emotion and Personality Recognition using Commercial Sensors, *IEEE Transactions on Affective Computing*, 9(2):147-160, April-June 2018 (**Best Paper Award**).
28. J. Song, L. Gao, L. Liu, X. Zhu, and N. Sebe, Quantization based Hashing: A General Framework for Scalable Image and Video Retrieval, *Pattern Recognition*, 75:175-187, March 2018.
29. X. Wang, L. Gao, J. Song, X. Zhen, N. Sebe, and H. T. Shen, Deep appearance and motion learning for egocentric activity recognition, *Neurocomputing*, 275:438-447, January 2018.
30. I. Duta, J. Uijlings, B. Ionescu, K. Aizawa, A. Hauptmann and N. Sebe, Efficient Human Action Recognition using Histograms of Motion Gradients and VLAD with Descriptor Shape Information, *Multimedia Tools and Applications*, 76(21): 22445-22472, November 2017.
31. G. Lu, Y. Yan, N. Sebe, and C. Kambhamettu, Indoor Localization via Multi-View Images and Videos, *Computer Vision and Image Understanding*, 161:145-160, August 2017.
32. Z. Ma, Y. Yang, X. Chang, N. Sebe, and A. Hauptmann, The Many Shades of Negativity, *IEEE Transactions on Multimedia*, 19(7):1558-1568, July 2017.
33. F. Setti, D. Conigliaro, P. Rota, C. Bassetti, N. Conci, N. Sebe, and M. Cristani, The S-Hock dataset: A new Benchmark for Spectator Crowd Analysis, *Computer Vision and Image Understanding*, 159:47-58, June 2017.

34. D. Xu, Y. Yan, E. Ricci, and N. Sebe, Detecting Anomalous Events in Videos by Learning Deep Representations of Appearance and Motion, *Computer Vision and Image Understanding*, 156:117-127, March 2017.
35. L. Nie, R. Hong, L. Zhang, Y. Xia, D. Tao, and N. Sebe, Perceptual Attributes Optimization for Multivideo Summarization, *IEEE Transactions on Cybernetics*, 46(12):2991-3003, December 2016.
36. H. Rabiee, J. Haddadnia, H. Mousavi, M. Nabi, V. Murino, and N. Sebe, Crowd behavior representation: An attribute-based approach, *Springerplus*, 5(1):1179, December 2016.
37. J. Song, L. Gao, Y. Yan, F. Zou, and N. Sebe, Deep and Fast: Deep Learning Hashing with Semi-supervised Graph Construction, *Image and Vision Computing*, 55(part 2):101-108, November 2016.
38. J. Song, L. Gao, F. Nie, H. T. Shen, and N. Sebe, Optimized Graph Learning Using Partial Tags and Multiple Features for Image and Video Annotation, *IEEE Transactions on Image Processing*, 25(11):4999-5011, November 2016.
39. W. Wang, Y. Yan, L. Zhang, R. Hong, and N. Sebe, Collaborative Sparse Coding for Multi-view Action Recognition, *IEEE Multimedia*, 23(4):80-87, October-December 2016.
40. C. Tzelepis, Z. Ma, V. Mezaris, B. Ionescu, I. Kompatsiaris, G. Boato, N. Sebe, and S. Yan, Event-based Media Processing and Analysis: A Survey of the Literature, *Image and Vision Computing*, 53:3-19, September 2016.
41. I. Mironică, I. Duță, B. Ionescu, and N. Sebe, A Modified Vector of Locally Aggregated Descriptors Approach for Fast Video Classification, *Multimedia Tools and Applications*, 75(15):9045-9072, August 2016.
42. X. Alameda-Pineda, J. Staiano, R. Subramanian, L. Batrinca, E. Ricci, B. Lepri, O. Lanz, and N. Sebe, SALSA: A Novel Dataset for Multimodal Group Behavior Analysis, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 38(8):1706-1720, August 2016.
43. A. Sartori, D. Culibrk, Y. Yan, R. Job, and N. Sebe, Computational Modeling of Affective Qualities of Abstract Paintings, *IEEE Multimedia*, 23(3):44-54, July-September 2016.
44. Y. Yan, E. Ricci, R. Subramanian, G. Liu, O. Lanz, and N. Sebe, A Multi-task Learning Framework for Head Pose Estimation under Target Motion, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 38(6):1070-1083, June 2016.
45. G. Zen, L. Porzi, E. Sangineto, E. Ricci, and N. Sebe, Learning Personalized Models for Facial Expression Analysis and Gesture Recognition, *IEEE Transactions on Multimedia*, 18(4):775-788, April 2016.
46. L. Batrinca, N. Mana, B. Lepri, N. Sebe, and F. Pianesi, Multimodal Personality Recognition in Collaborative Goal-Oriented Tasks, *IEEE Transactions on Multimedia*, 18(4):659-673, April 2016.
47. J. Song, H. T. Shen, J. Wang, Z. Huang, N. Sebe, J. Wang, A Distance-Computation-Free Search Scheme for Binary Code Databases, *IEEE Transactions on Multimedia*, 18(3):484-495, March 2016.
48. W. Wang, Y. Yan, S. Winkler, and N. Sebe, Category Specific Dictionary Learning for Attribute Specific Feature Selection, *IEEE Transactions on Image Processing*, 25(3):1465-1478, March 2016.
49. G. Liu, Y. Yan, R. Subramanian, J. Song, G. Lu, and N. Sebe, Active Domain Adaptation with Noisy Labels for Multimedia Analysis, *World Wide Web*, 19(2):199-215, February 2016.
50. I. Mironica, B. Ionescu, J. Uijlings, and N. Sebe, Fisher Kernel Temporal Variation-based Relevance Feedback for Video Retrieval, *Computer Vision and Image Understanding*, 143:38-51, February 2016.
51. G. Lu, Y. Yan, L. Ren, P. Saponaro, N. Sebe, C. Kambhamettu, Where Am I in the Dark: Exploring Active Transfer Learning on the Use of Indoor Localization based on Thermal Imaging, *Neurocomputing*, 173(1):83-92, January 2016.
52. Y. Yan, E. Ricci, R. Subramanian, G. Liu and N. Sebe, Egocentric Daily Activity Recognition via Multitask Clustering, *IEEE Transactions on Image Processing*, 24(10):2984-2995, October 2015



53. M. Khomami Abadi, R. Subramanian, S. M. Kia, P. Avesani, I. Patras, and N. Sebe, DECAF: MEG-based Multimodal Database for Decoding Affective Physiological Responses, *IEEE Transactions on Affective Computing*, 6(3):209-222, July-September 2015
54. A. Sartori, V. Yanulevskaya, A. Akdag Salah, J. Uijlings, E. Bruni, and N. Sebe, Affective Analysis of Professional and Amateurs Abstract Paintings Using Statistical Analysis and Art Theory, *ACM Transactions on Interactive Intelligent Systems*, 15(2):1-27 (article 8), July 2015.
55. F. Zou, J. Song, Y. Chen, Y. Yang, K. Zhou, and N. Sebe, Compact Image Fingerprinting via Multiple Kernel Hashing, *IEEE Transactions on Multimedia*, 17(7):1006-1018, June 2015
56. Y. Yan, Y. Yang, D. Meng, G. Liu, W. Tong, A. Hauptmann, and N. Sebe, Event Oriented Dictionary Learning for Complex Event Detection, *IEEE Transactions on Image Processing*, 24(6):1867-1878, June 2015
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58. Y. Han, Y. Yang, Z. Ma, Y. Yan, N. Sebe, and X. Zhou, Semi-Supervised Feature Selection via Spline Regression for Video Semantic Recognition, *IEEE Transactions on Neural Networks and Learning Systems*, 26(2):252-264, February 2015
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62. A. Rajagopal, R. Subramanian, E. Ricci, R. Vieriu, O. Lanz, K. Ramakrishnan, and N. Sebe, Exploring Transfer Learning Approaches for Head Pose Classification from Multi-view Surveillance Images, *International Journal of Computer Vision*, 109(1-2):146-167, August 2014
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64. R. Ji, Y. Yang, N. Sebe, K. Aizawa, L. Cao, Large-scale geosocial multimedia, *IEEE Multimedia*, 21 (3):7-9, July-September 2014
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67. R. Subramanian, D. Shankar, N. Sebe, and D. Melcher, Emotion Modulates Eye Movement Patterns and Subsequent Memory for the Gist and Details of Movie Scenes, *Journal of Vision*, 14(3):1-18, March 2014
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3. M. Nabi, H. Mousavi, H. Rabiee, M. Ravanbakhsh, V. Murino, and N. Sebe, Abnormal Event Recognition in Crowd Environments, in *Applied Cloud Deep Semantic Recognition: Advanced Anomaly Detection*, M. Roopaei and P. Rad, Eds., ISBN: 978-1-138-30222-8, pp. 37-56, Taylor & Francis, 2018.
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## Conferences and Workshops<sup>1</sup>

1. A. Ermolov and N. Sebe, Latent World Models For Intrinsically Motivated Exploration, *Neural Information Processing Systems (NeurIPS'20)*, Vancouver, December 2020 (**A\* ranking**)
2. H. Tang, S. Bai, and N. Sebe, Dual Attention GANs for Semantic Image Synthesis, *ACM International Conference on Multimedia (ACM Multimedia'20)*, Seattle, October 2020 (**A\* ranking**).
3. J. Zhang, J. Chen, H. Tang, W. Wang, Y. Yan, E. Sangineto, and N. Sebe, A Dual In-painting Model for Unsupervised Gaze Correction and Animation in the Wild, *ACM International Conference on Multimedia (ACM Multimedia'20)*, Seattle, October 2020 (**A\* ranking**).

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<sup>1</sup> Ranking according to the Australian Ranking of Core Conferences: A\* - Flagship conference, A – Excellent conference, B – Good Conference, C – Other ranked conferences

4. Y. Ling, Z. Zhong, Z. Luo, P. Rota, S. Li, and N. Sebe, Class-aware Modality Mix and Center-guided Metric Learning for Visible-thermal Person Re-identification, *ACM International Conference on Multimedia (ACM Multimedia'20)*, Seattle, October 2020 (**A\* ranking**).
5. Y. Liu, M. De Nadai, D. Cai, H. Li, X. Alameda-Pineda, N. Sebe, and Bruno Lepri, Describe What to Change: A Text-guided Unsupervised Image-to-image Translation Approach, *ACM International Conference on Multimedia (ACM Multimedia'20)*, Seattle, October 2020 (**A\* ranking**).
6. R. Gomez, Y. Liu, M. De Nadai, D. Karatzas, B. Lepri, and Nicu Sebe, Retrieval Guided Unsupervised Multi-domain Image to Image Translation, *ACM International Conference on Multimedia (ACM Multimedia'20)*, Seattle, October 2020 (**A\* ranking**).
7. H. Tang, S. Bai, P. Torr, and N. Sebe, Bipartite Graph Reasoning GANs for Person Image Generation, *British Machine Vision Conference (BMVC'20)*, Manchester, September 2020 (**B ranking**).
8. H. Tang, S. Bai, L. Zhang, P. Torr, and N. Sebe, XingGAN for Person Image Generation, *European Conference on Computer Vision (ECCV'20)*, Glasgow, August 2020 (**A ranking**).
9. Y. Yang, G. Li, Z. Wu, L. Su, Q. Huang, and N. Sebe, Weakly-Supervised Crowd Counting Learns from Sorting Rather than Locations, *European Conference on Computer Vision (ECCV'20)*, Glasgow, August 2020 (**A ranking**).
10. S. F. dos Santos, N. Sebe, and J. Almeida, The Good, the Bad, and the Ugly: Neural Networks Straight from JPEG, *International Conference on Image Processing (ICIP'20)*, Abu Dhabi, October 2020 (**B ranking**).
11. H. Tang, D. Xu, Y. Yan, P. Torr, and N. Sebe, Local Class-Specific and Global Image-Level Generative Adversarial Networks for Semantic-Guided Scene Generation, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'20)*, Seattle, June 2020 (**A\* ranking**).
12. Y. Yang, G. Li, Z. Wu, L. Su, Q. Huang, and N. Sebe, Reverse Perspective Network for Perspective-Aware Object Counting, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'20)*, Seattle, June 2020 (**A\* ranking**).
13. Z. Zhang, Y. Yan, S. Lathuilière, E. Ricci, J. Yang, and N. Sebe, Online Depth Learning against Forgetting in Monocular Videos, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'20)*, Seattle, June 2020 (**A\* ranking**).
14. S. Lathuilière, E. Sangineto, A. Siarohin, and N. Sebe, Attention-based Fusion for Multi-source Human Image Generation, *IEEE Winter Conference on Application of Computer Vision (WACV'20)*, Snowmass, March 2020 (**A ranking**).
15. A. Siarohin, S. Lathuilière, S. Tulyakov, E. Ricci, and N. Sebe, First Order Motion Model for Image Animation, *Neural Information Processing Systems (NeurIPS'19)*, Vancouver, December 2019 (**A\* ranking**).
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17. S.F. dos Santos, N. Sebe, and J. Almeida, CV-C3D: Action Recognition on Compressed Videos with Convolutional 3D Networks, *International Conference on Graphics, Patterns and Images (SIBGRAPI'19)*, Rio de Janeiro, October 2019
18. H. Tang, D. Xu, G. Liu, W. Wang, Y. Yan, and N. Sebe, Cycle in Cycle Generative Adversarial Networks for Keypoint-Guided Image Generation, *ACM International Conference on Multimedia (ACM Multimedia'19)*, Nice, October 2019 (**A\* ranking**).
19. Y. Liu, M. de Nadai, G. Zen, N. Sebe, and B. Lepri, Gesture-to-Gesture Translation in the Wild via Category-Independent Conditional Maps, *ACM International Conference on Multimedia (ACM Multimedia'19)*, Nice, October 2019 (**A\* ranking**).
20. M. Puscas, D. Xu, A. Pilzer, and N. Sebe, Structured Coupled Generative Adversarial Networks for Unsupervised Monocular Depth Estimation, *International Conference on 3D Vision (3DV'19)*, Quebec City, September 2019

21. C. Saltori, S. Roy, N. Sebe, and G. Iacca, Regularized Evolutionary Algorithm for Dynamic Neural Topology Search, *International Conference on Image Analysis and Processing (ICIAP'2019)*, Trento, September 2019 (**B ranking**).
22. S. Roy, A. Siarohin, and N. Sebe, Unsupervised Domain Adaptation using Full-Feature Whitening and Coloring, *International Conference on Image Analysis and Processing (ICIAP'2019)*, Trento, September 2019 (**B ranking**).
23. H. Tang, W. Wang, S. Wu, X. Chen, D. Xu, N. Sebe, and Y. Yan, Expression Conditional GAN for Facial Expression-to-Expression Translation, *International Conference on Image Processing (ICIP'19)*, Taipei, September 2019 (**B ranking**).
24. V. Arruda, T. Paixao, R. Berriel, A. De Souza, C. Badue, N. Sebe and T. Oliveira-Santos, Cross-Domain Car Detection Using Unsupervised Image-to-Image Translation: From Day to Night, *International Joint Conference on Neural Networks (IJCNN'19)*, Budapest, July 2019.
25. H. Tang, D. Xu, N. Sebe and Y. Yan, Attention-Guided Generative Adversarial Networks for Unsupervised Image-to-Image Translation, *International Joint Conference on Neural Networks (IJCNN'19)*, Budapest, July 2019.
26. L. Tabelini Torres, T. Paixao, R. Berriel, A. De Souza, C. Badue, N. Sebe and T. Oliveira-Santos, Effortless Deep Training for Traffic Sign Detection Using Templates and Arbitrary Natural Images, *International Joint Conference on Neural Networks (IJCNN'19)*, Budapest, July 2019.
27. S. Ghosh, A. Dhall, N. Sebe and T. Gedeon, Predicting Group Cohesiveness in Images, *International Joint Conference on Neural Networks (IJCNN'19)*, Budapest, July 2019.
28. S. Roy, A. Siarohin, E. Sangineto, S. Rota Bulò, N. Sebe, and E. Ricci, Unsupervised Domain Adaptation using Feature-Whitening and Consensus Loss, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'19)*, Long Beach, June 2019 (**A\* ranking**).
29. A. Siarohin, S. Lathuiliere, S. Tulyakov, E. Ricci, and N. Sebe, Animating Arbitrary Objects via Deep Motion Transfer, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'19)*, Long Beach, June 2019 (**A\* ranking**).
30. A. Pilzer, S. Lathuiliere, N. Sebe, and E. Ricci, Refine and Distill: Exploiting Cycle-Inconsistency and Knowledge Distillation for Unsupervised Monocular Depth Estimation, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'19)*, Long Beach, June 2019 (**A\* ranking**).
31. Z. Zhang, Z. Cui, C. Xu, Y. Yan, N. Sebe, and J. Yang, Pattern-Affinitive Propagation across Depth, Surface Normal and Semantic Segmentation, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'19)*, Long Beach, June 2019 (**A\* ranking**).
32. H. Tang, D. Xu, N. Sebe, Y. Wang, J. Corso, and Y. Yan, Multi-Channel Attention Selection GAN with Cascaded Semantic Guidance for Cross-View Image Translation, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'19)*, Long Beach, June 2019 (**A\* ranking**).
33. H. Tang, X. Chen, W. Wang, D. Xu, J. Corso, N. Sebe, and Y. Yan, Attribute-Guided Sketch Generation, *IEEE International Conference on Automatic Face and Gesture Recognition (FG'19)*, Lille, May 2019.
34. A. Siarohin, E. Sangineto, and N. Sebe, Whitening and Coloring Transform for GANs, *International Conference on Learning Representations (ICLR'19)*, New Orleans, May 2019.
35. H. Tang, H. Wei, W. Xiao, W. Wang, D. Xu, Y. Yan, and N. Sebe, Deep Micro-Dictionary Learning and Coding Network, *IEEE Winter Conference on Application of Computer Vision (WACV'19)*, Hawaii, January 2019 (**A ranking**).
36. M. Ravanbakhsh, E. Sangineto, M. Nabi, and N. Sebe, Training Adversarial Discriminators for Abnormality Detection in Crowds, *IEEE Winter Conference on Application of Computer Vision (WACV'19)*, Hawaii, January 2019 (**A ranking**).
37. F. Pahde, M. Puscas, J. Wolff, T. Klein, N. Sebe, and M. Nabi, Low-Shot Learning From Imaginary 3D Model, *IEEE Winter Conference on Application of Computer Vision (WACV'19)*, Hawaii, January 2019 (**A ranking**).

38. A. Siarohin, G. Zen, N. Sebe, and E. Ricci, Enhancing Perceptual Attributes with Bayesian Style Generation, *Asian Conference on Computer Vision (ACCV'18)*, Perth, December 2018 (**B ranking**)
39. H. Tang, D. Xu, W. Wang, Y. Yan, and N. Sebe, Dual Generator Generative Adversarial Networks for Multi-Domain Image-to-Image Translation, *Asian Conference on Computer Vision (ACCV'18)*, Perth, December 2018 (**B ranking**)
40. H. Tang, W. Wang, D. Xu, Y. Yan, and N. Sebe, GestureGAN for Hand Gesture-to-Gesture Translation in the Wild, *ACM International Conference on Multimedia (ACM Multimedia'18)*, Seoul, October 2018 (**A\* ranking**).
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42. S. Ghosh, A. Dhall, and N. Sebe, Automatic Group Affect Analysis in Images via Visual Attribute and Feature Networks, *International Conference on Image Processing (ICIP'18)*, Athens, September 2018 (**B ranking**)
43. S. Roy, E. Sangineto, B. Demir, and N. Sebe, Semantic-fusion GANs for Semi-supervised Satellite Image Classification, *International Conference on Image Processing (ICIP'18)*, Athens, September 2018 (**B ranking**)
44. E. Stepanov, S. Lathuiliere, S. Chowdhury, A. Ghosh, R. Vieriu, N. Sebe, and G. Riccardi, Depression Severity Estimation from Multiple Modalities, *IEEE International Conference on e-Health Networking, Applications and Services (Healthcom'18)*, Ostrava, September 2018 (**C ranking**) **Excellent Paper Award**
45. S. Roy, E. Sangineto, B. Demir, and N. Sebe, Deep Metric and Hash-code Learning for Content-based Retrieval of Remote Sensing Images, *International Geoscience and Remote Sensing Symposium (IGARSS'18)*, Valencia, July 2018 (**C ranking**)
46. W. Wang, X. Alameda-Pineda, D. Xu, E. Ricci, and N. Sebe, Every Smile is Unique: Landmark-guided Diverse Smile Generation, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'18)*, Salt Lake City, June 2018 (**A\* ranking**).
47. A. Siarohin, E. Sangineto, S. Lathuilière, and N. Sebe, Deformable GANs for Pose-based Human Image Generation, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'18)*, Salt Lake City, June 2018 (**A\* ranking**).
48. D. Xu, W. Ouyang, X. Wang, and N. Sebe, PAD-Net: Multi-Tasks Guided Prediction-and-Distillation Network for Simultaneous Depth Estimation and Scene Parsing, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'18)*, Salt Lake City, June 2018 (**A\* ranking**).
49. D. Xu, W. Wang, H. Tang, N. Sebe, and E. Ricci, Structured Attention Guided Convolutional Neural Fields for Monocular Depth Estimation, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'18)*, Salt Lake City, June 2018 (**A\* ranking**).
50. D. Chen, D. Xu, H. Li, N. Sebe, and X. Wang, Group Consistent Similarity Learning via Deep CRF for Person Re-Identification, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'18)*, Salt Lake City, June 2018 (**A\* ranking**).
51. M. Ravanbakhsh, M. Nabi, H. Mousavi, E. Sangineto, and N. Sebe, Plug-and-Play CNN for Crowd Motion Analysis: An Application in Abnormal Event Detection, *IEEE Winter Conf. on Applications of Computer Vision (WACV'18)*, Lake Tahoe, US, March 2018.
52. S. Choi, K. Aizawa, and N. Sebe, FontMatcher: Font Image Paring for Harmonious Digital Graphic Design, *ACM Intelligent User Interfaces Conference (IUI'18)*, Tokyo, Japan, March 2018.
53. D. Xu, W. Ouyang, X. Alameda-Pineda, E. Ricci, X. Wang, and N. Sebe, Learning Deep Structured Multi-Scale Features using Attention-Gated CRFs for Contour Prediction, *Neural Information Processing Systems (NIPS'17)*, Long Beach, December 2017 (**A\* ranking**)
54. M. Ravanbakhsh, M. Nabi, E. Sangineto, L. Marcenaro, C. Regazzoni, and N. Sebe, Abnormal Event Detection in Videos using Generative Adversarial Nets, *International Conference on Image Processing (ICIP'17)*, Beijing, China, September 2017 (**B ranking**) **Second Best Student Paper Award**.

55. D. Xu, E. Ricci, W. Ouyang, X. Wang, and N. Sebe, Multi-Scale Continuous CRFs as Sequential Deep Networks for Monocular Depth Estimation, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'17)*, Honolulu, July 2017 (**A\* ranking**).
56. D. Xu, W. Ouyang, E. Ricci, X. Wang, and N. Sebe, Learning Cross-Modal Deep Representations for Robust Pedestrian Detection, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'17)*, Honolulu, July 2017 (**A\* ranking**).
57. X. Alameda-Pineda, A. Pilzer, D. Xu, N. Sebe, and E. Ricci, Viraliency: Pooling Local Virality, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'17)*, Honolulu, July 2017 (**A\* ranking**).
58. I. Duta, B. Ionescu, K. Aizawa, and N. Sebe, Spatio-Temporal Vector of Locally Max Pooled Features for Action Recognition in Videos, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'17)*, Honolulu, July 2017 (**A\* ranking**).
59. A. Siarohin, G. Zen, C. Majtanovic, X. Alameda-Pineda, E. Ricci and N. Sebe, How to Make an Image More Memorable? A Deep Style Transfer Approach, *ACM International Conference on Multimedia Retrieval (ICMR'17)*, Bucharest, June 2017 (**B ranking**).
60. I. Duță, B. Ionescu, K. Aizawa and N. Sebe, Simple, Efficient and Effective Encodings of Local Deep Features for Video Action Recognition, *ACM International Conference on Multimedia Retrieval (ICMR'17)*, Bucharest, June 2017 (**B ranking**).
61. P. Ghaemmaghami, M. Nabi, Y. Yan, G. Riccardi, and N. Sebe, A Cross-modal Adaptation Approach for Brain Decoding, *IEEE International Conference on Acoustics, Speech and Signal Processing*, New Orleans, USA, March 2017 (**B ranking**).
62. I. Duta, B. Ionescu, K. Aizawa, and N. Sebe, Spatio-temporal VLAD Encoding for Human Action Recognition in Videos, *International Conference on Multimedia Modeling (MMM'17)*, Reykjavik, Iceland, January 2017 (**C ranking**).
63. P. Ghaemmaghami, M. Nabi, Y. Yan, and N. Sebe, Sparse-coded Cross-domain Adaptation from the Visual to the Brain Domain, *International Conference on Pattern Recognition (ICPR'16)*, Cancun, Mexico, December 2016 (**B ranking**).
64. D. Xu, J. Song, X. Alameda-Pineda, E. Ricci and N. Sebe, Multi-Paced Dictionary Learning for Cross-Domain Retrieval and Recognition, *International Conference on Pattern Recognition (ICPR'16)*, Cancun, Mexico, December 2016 (**B ranking**) **Best Intel Track 2 Scientific Paper Award**.
65. I. Duta, T. Anh Nguyen, K. Aizawa, B. Ionescu, and N. Sebe, Boosting VLAD with Double Assignment using Deep Features for Action Recognition in Videos, *International Conference on Pattern Recognition (ICPR'16)*, Cancun, Mexico, December 2016 (**B ranking**).
66. W. Wang, S. Tulyakov, and N. Sebe, Recurrent Convolutional Face Alignment, *Asian Conference on Computer Vision (ACCV'16)*, Taipei, Taiwan, November 2016 (**B ranking**).
67. W. Wang, Y. Yan, L. Nie, L. Zhang, S. Winkler, and N. Sebe, Sparse Code Filtering for Action Pattern Mining, *Asian Conference on Computer Vision (ACCV'16)*, Taipei, Taiwan, November 2016 (**B ranking**).
68. D. Xu, X. Alameda-Pineda, J. Song, E. Ricci, and N. Sebe, Academic Coupled Dictionary Learning for Sketch-based Image Retrieval, *ACM International Conference on Multimedia (ACM Multimedia'16)*, Amsterdam, October 2016 (**A\* ranking**).
69. J. Song, L. Gao, M. Puscas, F. Nie, F. Shen and N. Sebe, Joint Graph Learning and Video Segmentation via Multiple Cues and Topology Calibration, *ACM International Conference on Multimedia (ACM Multimedia'16)*, Amsterdam, October 2016 (**A\* ranking**).
70. M. De Nadai, R. Vieriu, G. Zen, S. Dragicevic, N. Naik, M. Caraviello, C. Hidalgo, N. Sebe, and B. Lepri, Are Safer Looking Neighborhoods More Lively? A Multimodal Investigation into Urban Life, *24th ACM International Conference on Multimedia (ACM Multimedia'16)*, Amsterdam, October 2016 (**A\* ranking**).
71. W. Wang, Y. Yan, F. Nie, X. Alameda Pineda, S. Yan, and N. Sebe, Projective Unsupervised Flexible Embedding with Optimal Graph, *British Machine Vision Conference (BMVC'16)*, York, September 2016 (**B ranking**).



72. P. Ghaemmaghami Tabrizi and N. Sebe, Brain and Music: Music Genre Classification using Brain Signals, *European Signal Processing Conference (EUSIPCO'16)*, Budapest, Hungary, September 2016 (**B ranking**)
73. W. Wang, Z. Cui, Y. Yan, J. Feng, S. Yan, X. Shu, and N. Sebe, Recurrent Face Aging, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'16)*, Las Vegas, June 2016 (**A\* ranking**).
74. S. Tulyakov, X. Alameda-Pineda, E. Ricci, L. Yin, J. Cohn, and N. Sebe, Self-Adaptive Matrix Completion for Heart Rate Estimation from Face Videos under Realistic Conditions, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'16)*, Las Vegas, June 2016 (**A\* ranking**).
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97. W. Wang, Y. Yan, and N. Sebe, Attribute-Guided Dictionary Learning, *ACM International Conference on Multimedia Retrieval (ICMR'15)*, Shanghai, June 2015 (**B ranking**).
98. D. Conigliaro, P. Rota, F. Setti, C. Bassetti, N. Conci, N. Sebe, and M. Cristani, The S-Hock Dataset: Analyzing Crowds at the Stadium, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'15)*, Boston, June 2015 (**A\* ranking**).
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105. Y. Yan, E. Ricci, G. Liu, and N. Sebe, Recognizing Daily Activities from First-person Videos with Multi-task Clustering, *Asian Conference on Computer Vision (ACCV'14)*, Singapore, November 2014 (**B ranking**).
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108. Z. Ma, Y. Yang, N. Sebe and A. Hauptmann, Multiple Features But Few Labels? A Symbiotic Solution Exemplified for Video Analysis, *ACM International Conference on Multimedia (ACM Multimedia'14)*, Orlando, November 2014 (**A\* ranking**).
109. B. Zhang, Y. Yan, N. Conci and N. Sebe, You Talkin' to Me? Recognizing Complex Human Interactions in Unconstrained Videos, *ACM International Conference on Multimedia (ACM Multimedia'14)*, Orlando, November 2014 (**A\* ranking**).
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113. G. Lu, Y. Yan, N. Sebe, and C. Kambhamettu, Knowing Where I Am: Exploiting Multi-Task Learning for Multi-view Indoor Image-based Localization, *British Machine Vision Conference (BMVC'14)*, Nottingham, September 2014 (**B ranking**).
114. J. Staiano, N. Oliver, B. Lepri, R. de Oliveira, M. Caraviello, and N. Sebe, Money Walks: A Human-Centric Study on the Economics of Personal Mobile Data, *ACM International Joint Conference on Pervasive and Ubiquitous Computing (Ubicomp'14)*, Seattle, September 2014 (**A\* ranking**) **Best Paper Award**.
115. Y. Yan, E. Ricci, G. Liu, R. Subramanian, and N. Sebe, Clustered Multi-task Linear Discriminant Analysis for View Invariant Color-Depth Action Recognition, *International Conference on Pattern Recognition (ICPR'14)*, Stockholm, Sweden, August 2014 (**B ranking**).
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121. J. Uijlings, I. Duta, N. Rostamzadeh, and N. Sebe, Realtime Video Classification using Dense HOF/HOG, *ACM International Conference on Multimedia Retrieval (ICMR'14)*, Glasgow, April 2014 (**B ranking**).
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123. Y. Yan, E. Ricci, R. Subramanian, O. Lanz, and N. Sebe, No Matter Where You Are: Flexible Graph-guided Multi-task Learning for Multi-view Head Pose Classification Under Target Motion, *International Conference of Computer Vision (ICCV'13)*, Sydney, Australia, December 2013 (**A\* ranking**).
124. Z. Xu, Y. Yang, I. Tsang, N. Sebe, and A. Hauptmann, Feature Weighting via Optimal Thresholding for Video Analysis, *International Conference of Computer Vision (ICCV'13)*, Sydney, Australia, December 2013 (**A\* ranking**).
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126. I. Mironica, J. Uijlings, N. Rostamzadeh, B. Ionescu, and N. Sebe, Time Matters! Capturing Variation in Time in Video using Fisher Kernels, *ACM International Conference on Multimedia (ACM Multimedia'13)*, Barcelona, Spain, October 2013 (**A\* ranking**).
127. Y. Yan, Z. Xu, G. Liu, Z. Ma, and N. Sebe, GLocal Structural Feature Selection with Sparsity for Multimedia Data Understanding, *ACM International Conference on Multimedia (ACM Multimedia'13)*, Barcelona, Spain, October 2013 (**A\* ranking**).
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131. N. Rostamzadeh, G. Zen, I. Mironica, J. Uijlings, and N. Sebe, Daily Living Activities Recognition via Efficient High and Low Level Cues Combination and Fisher Kernel Representation, *International Conference on Image Analysis and Processing (ICIAP'2013)*, Naples, September 2013 (**B ranking**).
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133. M. Khomami Abadi, J. Staiano, A. Cappelletti, M. Zancanaro, and N. Sebe, Multimodal Engagement Classification for Affective Cinema, *5th International Conference on Affective Computing and Intelligent Interaction (ACII'13)*, Geneva, Switzerland, September 2013 (**C ranking**).
134. P. Lovato, A. Perina, D. Seon Cheng, C. Segalin, N. Sebe, and M. Cristani, We Like It! Mapping Image Preferences on the Counting Grid, *International Conference on Image Processing (ICIP'13)*, Melbourne, Australia, September 2013 (**B ranking**).
135. Y. Yan, G. Liu, E. Ricci, and N. Sebe, Multi-Task Linear Discriminant Analysis for Multi-view Action Recognition, *International Conference on Image Processing (ICIP'13)*, Melbourne, Australia, September 2013 (**B ranking**).
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140. P. Rota, D. Dang-Nguyen, N. Conci, and N. Sebe, Exploiting Visual Search Theory to Infer Social Interactions, *SPIE Conference on Multimedia Content and Mobile Devices*, San Francisco, USA, February 2013.
141. P. Lovato, A. Perina, N. Sebe, O. Zandona, A. Montagnini, M. Bicego, and M. Cristani, Tell Me What You Like and I'll Tell You What You Are: Discriminating Visual Preferences on Flickr Data, *Asian Conference on Computer Vision (ACCV'12)*, Daejeon, November 2012 (**B ranking**).
142. A. K. Rajagopal, R. Subramanian, R. L. Vieriu, E. Ricci, O. Lanz, K. Ramakrishnan, and N. Sebe, An Adaptation Framework for Head-Pose Classification in Dynamic Multi-view Scenarios, *Asian Conference on Computer Vision (ACCV'12)*, Daejeon, Korea, November 2012 (**B ranking**).
143. G. Zen, N. Rostamzadeh, J. Staiano, E. Ricci, and N. Sebe, Enhanced Semantic Descriptors for Functional Scene Categorization, *International Conference on Pattern Recognition (ICPR'12)*, Tsukuba, Japan, November 2012 (**B ranking**).
144. Y. Yan, R. Subramanian, O. Lanz, and N. Sebe, Active Transfer Learning for Multi-View Head-Pose Classification, *International Conference on Pattern Recognition (ICPR'12)*, Tsukuba, Japan, November 2012 (**B ranking**).
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147. E. Bruni, J. Uijlings, M. Baroni, and N. Sebe, Distributional semantics with eyes: Using image analysis to improve computational representations of word meaning, *20th ACM International Conference on Multimedia (ACM Multimedia'12)*, Nara, Japan, October, 2012 (**A\* ranking**).
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156. J. Stottinger, J. Uijlings, A. K. Pandey, N. Sebe, and F. Giunchiglia, (Unseen) Event Recognition via Semantic Compositionality, *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR'12)*, Providence, June 2012 (**A\* ranking**).
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170. H. Katti, R. Subramanian, M. Kankanhalli, T-S. Chua, N. Sebe, and K. Ramakrishnan, Making computers look the way we look: exploiting visual attention for image understanding, *ACM International Conference on Multimedia (ACM Multimedia'10)*, Firenze, October 2010 (**A\* ranking**).
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