

Maurizio Mancini, PhD - Curriculum Vitae

Personal Details

Name: Maurizio

Surname: Mancini

Birthday and birth place: 6 May 1974, Rome, Italy

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Scopus Author ID: 13008942700

Google Scholar: <https://scholar.google.it/citations?user=RJLyh1wAAAAJ>

Academic

Education

- **2008, PhD in Computer Science**

Place: Université Paris VIII

Title: Multimodal distinctive behavior for expressive embodied conversational agents

Supervisor: Prof. Catherine Pelachaud

Description: A real-time model for the synthesis of expressive/affective distinctive multimodal BML-compliant Embodied Conversational Agents

Note: This is a dual PhD in Computer Science and Cognitive Psychology. It has been delivered jointly by the Université Paris VIII (main institution) and the University of Rome “La Sapienza” (foreign institution). The research work of the PhD is mainly related to Computer Science, with a background in Cognitive Psychology.

- **2003, “Laurea” (Graduate + Master Degree) in Computer Science**

Place: University of Rome “La Sapienza”

Title: Analisi e sintesi dei gesti comunicativi per agenti conversazionali

Supervisor: Prof. Catherine Pelachaud

Description: Modeling and developing expressive gestures for the Greta ECA

Academic Experience

- **January 2016 - now, Assistant Professor**

Place: Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Università degli Studi di Genova, Italy

Lab: InfoMus (director: Prof. Antonio Camurri)

Duties: research/institutional activity (about 75% of time), student supervision, teaching activity (about 25% of time)

Contact details: DIBRIS, Viale Causa, 13 - 16145 Genova - Italy

Tel: (+39) 010 353-2310, 010 353-2979, 010 353-2948 (fax)

- **January 2013 - December 2015, Senior Researcher**

Place: Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Università degli Studi di Genova, Italy

Lab: InfoMus (director: Prof. Antonio Camurri)

Duties: research activity (about 90% of time), student supervision, teaching activity (about 10% of time)

- **October 2008 - December 2012, Post-doc Researcher**

Place: Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Università degli Studi di Genova, Italy

Lab: InfoMus (director: Prof. Antonio Camurri)

Duties: research activity (about 95% of time), teaching activity (about 5% of time)

- **March 2008 - June 2008, Post-doc Researcher**

Place: Université Paris VIII

Lab: ECAs lab directed by Prof. Catherine Pelachaud

Duties: research activity (100% of time)

- **January 2004 - February 2008, PhD Student (with a research contract paid by the HUMAINE EU Project)**

Place: Université Paris VIII

Lab: ECAs lab directed by Prof. Catherine Pelachaud

Duties: research activity (about 95% of time), teaching activity (about 5% of time)

- **May 2003 - December 2003, Research Engineer**

Place: Dipartimento di Informatica e Sistemistica (DIS), University of Rome “La Sapienza”

Lab: virtual agents lab directed by Prof. Catherine Pelachaud

Duties: research activity (100% of time)

National Qualifications

Italian and French law require the following titles in order to become Professor in public Universities. They can be obtained by submitting an application (cv, titles, publications and so on) which is evaluated by national and international qualified experts.

- 2017 Italian National Academic Qualification as Associate Professor (Computer Engineering)
- 2011 French National Academic Qualification as Associate Professor (Maître de Conférences), section 27 (Computer Science)

Grants

- 2015-2017 EU ICT-H2020 Project DANCE (<http://dance.dibris.unige.it>) Co-PI (coordinator), leader of WP2 (total funding 1.2M euros, 600k euros for the University of Genoa)
- 2016-2018 EU ICT-H2020 Project Wholodance (<http://www.wholodance.eu>) Co-PI (total funding 3.3M euros, 380k for the University of Genoa)
- 2011-2014 EU ICT-FP7 Project ILHAIRE (<http://ilhaire.eu>) Co-PI, co-leader of WP2 (total funding 2.7M euros, 300k for the University of Genoa)
- 2006 Funding awarded by the EU IST-FP6 Project HUMAINE (Human-Machine Interaction Network on Emotion) for short visit at the InfoMus Lab, University of Genoa, Italy (total funding 2000 euros)

Awards

- 2010 Finalist paper for the ACM Multimedia Grand Challenge 2010
Title: Multi-Scale Entropy analysis of Dominance in Social Creative Activities
- 2009 Best paper award candidate (Top 14%) - at the UCM 2009 Conference
Title: Sync'n'Move: social interaction based on music and gesture Varni et al. (2009)

Invited talks

- 2018 Invited speaker, seminar “Detecting full-body multimodal signals in laughter and music playing” for the SIBIL (Seminario Interdisciplinare Bilaterale), organized by the University of Rome 3 and the ISTC (Istituto di Scienze e Tecnologie della Cognizione, Italian CNR, Rome)
- 2016 Invited speaker, seminar “Automated Extraction and Sonification of Motion Qualities”, Institut des Systèmes Intelligents et de Robotique, Paris

- 2014 Invited Professor at the International Summer School in Systematic Musicology 2014, University of Genoa, Italy
- 2012 Invited speaker, seminar about the EyesWeb XMI platform, invited by Prof. E. Bevacqua, Ecole nationale d'Ingenieurs de Brest, France
- 2011 Invited Professor at the International Summer School in Systematic Musicology 2011, University of Jyväskylä, Finland
- 2005 Invited Professor at the National Institute of Informatics, Tokyo, Japan, invited by Prof. H. Prendinger

Presentations at International Conferences and Workshops

- ACII 2015, "Perception of Intensity Incongruence in Synthesized Multimodal Expressions of Laughter"
- ACII 2015, tutorial "A Research Platform for Synchronised Individual/Group Affective/Social Signal Recording and Analysis"
- ACII 2013, "Towards automated full body detection of laughter driven by human expert annotation"
- AVI 2012, "Embodied cooperation using mobile devices: presenting and evaluating the Sync4All application"
- ACII 2011, "Evaluating the communication of emotion via expressive gesture copying behaviour in an embodied humanoid agent"
- Gesture Workshop 2009, "Implementing distinctive behavior for conversational agents"
- UCMedia 2009, "Sync'n'Move: social interaction based on music and gesture"
- AAMAS 2008, "The FML APML language and Distinctiveness in multimodal behaviors"
- IVA 2007, "Dynamic behavior qualifiers for conversational agents"
- ACII 2007, "Real-time analysis and synthesis of emotional gesture expressivity"
- Gesture Workshop 2006, "From Acoustic Cues to an Expressive Agent and Implementing Expressive Gesture Synthesis for Embodied Conversational Agents"
- AISB 2004, "Speaking with Emotions"

Patents

- "Network communication architecture and method for the reproduction of multimedia content items", Camurri et al. (2014)
International Publication Number: WO 2015/063684 A1; United States Pub. No. US 2016/0294902 A2
Inventors: A. Camurri, F. Celante, M. Mancini, G. Varni, G. Volpe.

Collaborations, visits

Visiting researcher stays:

- May-June 2018 (21 days) Invited by Prof. C. Pelachaud to the ISIR, Sorbonne University. I will collaborate with Prof. Pelachaud's lab on analyzing humans nonverbal behaviors to be used to drive the behaviors of socio-emotional agents.
- March 2017 (10 days) Invited by Prof. R. Bresin, KTH, Sweden. In the framework of the DANCE project, I collaborated to the setup of an experiment in which users hear the sonification of their movements in real-time
- May 2014 (3 days) Invited by Prof. C. Pelachaud, Telecom-ParisTech, France. In the framework of the ILHAIRE Project, I collaborated to the setup of an experiment consisting in a laughter loop between a human user and an ECA Mancini et al. (2017a)
- 2005 (7 days) Invited by Prof. H. Prendinger, National Institute of Informatics, Tokyo, Japan. I collaborated with the Prof. Prendinger team to set up an ECA capable of interacting with the user through eye direction

Collaborations with other research groups:

- 2018 ISIR, Sorbonne University
During my visit in May and June 2018, I will work with Prof. Catherine Pelachaud and her PhD student Beatrice Biancardi on the implementation of an ECA interface in the framework of the Impressions Project (http://www.isir.upmc.fr/?op=view_profil&lang=en&id=425&pageid=1457).
- 2017 KTH and University of Maastricht
In the framework of the EU ICT-H2020 Project DANCE I collaborated with Prof. Roberto Bresin and his students Emma Frid and Ludvig Elblaus on a mapping between movement and sound. In the same project I collaborated with Prof. Beatrice de Gelder and her student Maarten Vaessen on a study that aimed to compare a model of automated movement quality extraction with the visual perception and brain activity of an observer. Results of both collaborations are going to appear in 2018.
- 2015-2016 Telecom ParisTech
In the framework of the EU ICT-FP7 Project ILHAIRE I collaborated with Prof. Catherine Pelachaud and her students Beatrice Biancardi, Florian Pecune and Yu Ding on the integration between EyesWeb XMI and the Greta agent. We connected the EyesWeb real-time laughter detection modules with the Greta laughter generation module. In several experiments Mancini et al. (2017a) we demonstrated a laughter copying interface can increase the perceived level of funniness of an audio stimuli.
- 2014-2015 University College of London, University of Mons, University of Zurich
In the framework of the EU ICT-FP7 Project ILHAIRE I collaborated with Professors Nadia Berthouze, Thierry Dutoit and Willibald Ruch and their research teams on laughter interfaces. Results have been published in several international journals and conferences Griffin et al. (2015), Ruch et al. (2014), Mancini et al. (2014a).
- 2012-2013 Queen's University Belfast
In the framework of the EU FP7-ICT Project SIEMPRE I collaborated with Prof. Roddy Cowie and his team on the automated analysis of groups of users performing a creative joint activity. We created movement features extraction models based on psychological studies on group creative joint activity and we applied them to music quartets. Results have been published in international journals and conferences Glowinski et al. (2013c).
- 2008-2009 Nokia
In the framework of the EU FP7-ICT Project SAME I collaborated with Jari Kleimola on expressive movement qualities extraction from mobile devices (e.g., smartphones). This work has been published in several international conferences and journals, the main one is Mancini et al. (2010b).
- 2006-2011 University of Birmingham and Coventry University
I collaborated with Dr. Ginevra Castellano and Prof. Christopher Peters of expressive movement copying between humans and virtual characters. This work started when I was a PhD student and has received many publications in international journals and conferences, the main one is Castellano et al. (2012).
- 2005-2006 KTH
In the framework of the EU FP6-IST Project HUMAINE I collaborated with Prof. Roberto Bresin on a mapping between audio features and expressive movements of a virtual character. This work has been published in several international conferences and journals, the main one is Mancini et al. (2007a).
- 2006-2007 University of Athens
In the framework of the EU FP6-IST Project HUMAINE I collaborated with Prof. Kostas Karpouzis and his lab (Amaryllis Raouzaïou, George Caridakis) on the extraction and synthesis of emotional movement qualities. This work has been published in several international conferences and journals, the main one is Caridakis et al. (2007).
- 2004-2005 CNRS (France)
In the framework of the EU FP6-IST Project HUMAINE I collaborated with Prof. Jean-Claude Martin and Prof. Laurence Devillers on the synthesis of emotional movement qualities in ecological settings (e.g., tv shows) Martin et al. (2011).

Student Supervision

- I co-supervised 3 PhD students in Computer Engineering (I did not officially supervise PhD students in Italy since the Italian University laws officially forbid a non-tenure to supervise PhD candidates):
 - Eleonora Ceccaldi, from 2017 to present. I am part of the group of supervisors.

- Erica Volta, from 2017 to present. I am part of the group of supervisors. I am collaborating with the student on the design and evaluation of applications for movement analysis in the framework of the EU Project TELMI (<http://telmi.upf.edu>) on music learning.
- Paolo Albornò, from 2015 to 2017. I collaborated with him on the design and implementation of modules for the real-time analysis of synchrony of movement. I supervised the student during the writing of several articles on international journals and conferences. I involved the student in writing proposals for the EU H2020 ICT funding scheme. At the present, Paolo Albornò is a post-doc researcher at the University of Genoa.
- From May 2017 to September 2017 I supervised the Master student Matteo Scerbo, with a thesis in Computer Engineering titled “Pitch Shifting through the Fourier transform or through the Constant-Q transform: a subjective comparison”. I instructed the student about the process of working on a research topic (in his case it was about the algorithms for audio pitch shifting), investigating the existing bibliography, planning the work by highlighting differences and complementarity with the state-of-the-art, conducting a simple evaluation study, creating a report and presenting it. At the present, M. Scerbo is a Master student at the Politecnico di Milano (Italy).
- From September 2014 to December 2014 I co-supervised the Master student Beatrice Biancardi. I collaborated on the supervision of this student with Prof. Catherine Pelachaud who was at that time with Telecom ParisTech in Paris (France). I collaborated with the student to run an evaluation study on virtual agents that has been published in international conferences (AAMAS, AAI) and journals (ACM Transactions on Internet Technology). At the present, B. Biancardi is a PhD student at the Institut des Systèmes Intelligents et de Robotique (ISIR, France).
- I supervised 3 students of the European Master on Advanced RObotics (EMARO) for the University of Genoa:
 - Marco Barbagelata and Prashanth Martinelli in 2013. I was the supervisor of these two students of the European Master EMARO. I guided the students in the process of studying the problem (e.g., to apply computer vision techniques to videos of people performing laughter movements, to extract indicators of intensity of laughter), implementing algorithms and creating a report.
 - Emilio Roth in 2010. I was the supervisor of this student of the European Master EMARO. I guided the student in the process of studying the problem (e.g., to apply computer vision techniques to videos of people performing dance movements and extract indicators of impulsive movements), implementing algorithms and creating a report

Participation in European research projects

- 2018 EU H2020-ICT TELMI
<http://telmi.upf.edu>
 Contribution: real-time and offline expressive features analysis in violin performances, experimental design
 Publications: a submission to the MOCO 2018 conference is in progress
- 2015-2017 EU H2020-ICT DANCE
<http://dance.dibris.unige.it>
 Contribution: co-PI, co-responsible of the project coordination, leader of WP2, participation in writing deliverables, preparation of annual reports and meetings, financial auditing, experimental design, software development, data analysis, real-time and offline expressive features analysis in dance performances using multimodal sensors (motion capture, depth sensors, accelerometers)
 Publications: Albornò et al. (2017), Camurri et al. (2016a), Albornò et al. (2016b), Piana et al. (2016a), Albornò et al. (2016a), Piana et al. (2016b), Camurri et al. (2016b)
- 2011-2014 EU FP7-ICT ILHAIRE
<http://www.ilhaire.eu>
 Contribution: co-PI, co-leader of WP2, participation in writing deliverables, project meetings, experimental design, software development, data analysis, real-time and offline expressive features analysis (laughter detection), collection of multimodal data corpus of laughter in interaction
 Publications: Mancini et al. (2017a), Niewiadomski et al. (2016), Ruch et al. (2014), Niewiadomski et al. (2015), Griffin et al. (2015), Pecune et al. (2015b), Pecune et al. (2015a), Niewiadomski et al. (2014), Mancini et al. (2014c), Mancini et al. (2013b), Mancini et al. (2014a), Niewiadomski et al. (2013a), Urbain et al. (2013a), Urbain et al. (2013b), Mancini et al. (2012b)

- 2010-2013 EU FP7-ICT MIROR
www.mirrorproject.eu
 Contribution: co-responsible of WP4, contributor of tasks 3.6 (Modules for gesture analysis and control) and 4.3 (MIROR prototypes), writing of deliverables, participation in project meetings, management of software development and data analysis. The main outputs of my activity are in the papers: Varni et al. (2013), Varni et al. (2017).
- 2010-2013 EU FP7-ICT SIEMPRE
<http://www.infomus.org/siempre>
 Contribution: real-time and offline social features analysis (entropy of movement) from MoCap, computer vision, and sensors, collection of multimodal data corpus of ensemble music performance, 3D visualization of motion captured data, mapping of emotional movement from motion captured data (Kinect) to virtual characters
 Publications: Varni et al. (2018), Glowinski et al. (2013c), Camurri et al. (2011), Glowinski et al. (2013b), Glowinski et al. (2013a), Glowinski and Mancini (2011), Camurri et al. (2012), Glowinski et al. (2011)
- 2008-2010 EU FP7-ICT SAME
<http://sameproject.eu>
 Contribution: participation in writing deliverables, mobile interfaces for active music listening, real-time expressive gesture analysis (smoothness, impulsivity) using computer-vision techniques and mobile devices; social features extraction (synchronization of users) using mobile devices; evaluation of mobile interfaces
 Publications: Mancini et al. (2015), Mancini et al. (2013a), Varni et al. (2011), Mancini et al. (2010b), Varni et al. (2012), Mancini et al. (2010a), Varni et al. (2009), Glowinski et al. (2012b), Glowinski et al. (2012c), Kleimola et al. (2009)
- 2008 EU FP6-IST CALLAS
<http://www.callas-newmedia.eu>
 Contribution: definition of a BML-compliant architecture for the Greta ECA
 Publications: Charles et al. (2007), Mancini et al. (2008), Mancini and Pelachaud (2009b), Niewiadomski et al. (2009)
- 2004-2007 EU FP6-IST HUMAINE
<http://emotion-research.net>
 Contribution: expressive/affective gesture synthesis for the Greta ECA (6 expressivity parameters model), mapping of emotional movement from a human actor to a virtual character, mapping of an emotional music performance to a virtual character, model for multimodal synchronization for the Greta ECA (synchronization of head, arms, torso movements), (PhD main theme) model for distinctive ECAs, main contributor of BML and FML standard languages, XML languages for defining 3D virtual worlds (objects) and characters (face, body, texture mapping, skinning), GUI-based 3D tools for the creation of facial expressions and gestures of a virtual character, GUI-based tool for the definition of 3D animations in BML
 Publications: Mancini and Pelachaud (2009a), Mancini et al. (2007a), Bevacqua et al. (2008), Mancini and Pelachaud (2008a), Vilhjálmsdóttir et al. (2007), Mancini et al. (2007b), Mancini and Castellano (2007), Mancini and Pelachaud (2007), Peters et al. (2006), Pelachaud et al. (2006), Mancini et al. (2005c), Hartmann et al. (2005a), Peters et al. (2005b), Mancini et al. (2005b), Hartmann et al. (2005b), Lamolle et al. (2005), Martin et al. (2005), Szilas and Mancini (2005), Bevacqua et al. (2007), Castellano and Mancini (2007), Caridakis et al. (2007), Hartmann et al. (2006), Bevacqua et al. (2006), Peters et al. (2005a), Mancini et al. (2005a), Bevacqua et al. (2004), Niewiadomski et al. (2013b), Martin et al. (2011), Hyniewska et al. (2010), Niewiadomski et al. (2010), Peters et al. (2007)
- 2003 EU FP5-IST MAGICSTER
http://cordis.europa.eu/project/rcn/57111_en.html
 Contribution: expressive gesture synthesis for the Greta ECA, OpenGL visualization of an animated character with texture mapping and skinning, GUI-based 3D tool for the creation of gestures of a virtual character
 Publications: Hartmann et al. (2002)

Board Participation

Executive Member of Scientific Associations

- January 2018: Junior Member of the Executive Committee of the Association for the Advancement of Affective Computing (<http://emotion-research.net/>). I am in charge of the Best PhD dissertation on Affective Computing Award and on a major revision of the Association's constitution.

Bachelor Degree Panels

- September 2017: Member of the Bachelor Degree Panel of the “Engineering Management” Degree at the University of Genoa, Center of Savona (Italy)
- July 2017: Member of the Bachelor Degree Panel of the “Engineering Management” Degree at the University of Genoa, Center of Savona (Italy)

Postdoc Panels

- October 2017: Member of the Panel for assigning a Postdoc research contract (Procedure number D.R. 3329, 14-9-2017 for Postdoc position, or “Assegno di ricerca”, following the Italian laws) at the DIBRIS Department, University of Genoa

Other Panels/Boards

- 2018: Member of the Research Committee of the Department of Computer Science, Bio-engineering, Robotics e Computer Systems Engineering (DIBRIS) of the University of Genoa. The Committee monitors the research activity of the Department and manages funding of project proposals.
- 2016-2018: Member of the “Engineering Management” Bachelor Degree Council at the University of Genoa, Center of Savona (Italy). The Council has the responsibility of managing the Degree scope, courses, teaching and exam methodologies.

Editorial and conference activity

Editor:

- Guest Editor of IEEE Transactions on Affective Computing, special issue titled “Laughter Computing: towards machines able to deal with laughter”, to appear
- Guest Editor of Journal on Multimodal User Interfaces, special issue on Cross-disciplinary approaches to multimodal user interfaces, Springer Berlin / Heidelberg, ISSN 1783-7677, pages 1-2, v. 4, i. 1, doi.org/10.1007/s12193-010-0055-z

Organizing Committee Member for International Conferences:

- Program Chair and Publication Co-chair of the 5th International Conference on Movement and Computing (MOCO) 2018 (<http://moco18.movementcomputing.org>)
- Publication Chair of the 17th International Conference on Intelligent Virtual Agents (IVA) 2017 (<http://iva2017.org>)

Chair/Organizer of Conferences/Workshops:

- 2015 INTERPERSONAL 2015 @ICMI2015 <http://interpersonalicmi2015.isir.upmc.fr/>
- 2015 ACMMULTIMEDIA 2015
- 2015 ENHANCE 2015 @ACII2015 <http://enhance2015.isir.upmc.fr/>
- 2015 Special session on Laughter (chair and organizer) @ACII2015
- 2014 IHCI 2015
- 2013 IVA 2013
- 2013 AFFINE 2013 @ACII 2013
- 2012 3rd Workshop on Social Behavior in Music <http://www.infomus.org/Events/SBM2012>
- 2011 Closing session of the European ICT-FET Conference and Exhibition 2011
- 2011 International Conference Intetain 2011
- 2011 2nd Workshop on Social Behavior in Music <http://www.infomus.org/SBM2011>

- 2010 AFFINE 2010 @ACMMULTIMEDIA 2010
- 2010 MMC2008 @LREC 2010
- 2009 Organizer and P. C. of eNTERFACE Summer School 2009
- 2009 Organizer and P. C. of the 1st IEEE Workshop on Social Behavior in Music <http://www.infomus.org/SBM2009>
- 2008 MMC2008 @LREC 2008

Member of International Scientific Committees

- EyesWeb week 2014, international school for users and developers of the EyesWeb platform, Genova, Italy, 2014 (<http://www.infomus.org/Events/EYWweek2014/>)
- EyesWeb week 2010, international school for users and developers of the EyesWeb platform, Genova, Italy, 2010 (<http://www.infomus.org/Events/EYWweek2010/>)

Review activities

Reviewer for National Projects:

- Project Reviewer for the French National Research Agency ANR in 2016
- Project Reviewer for the Canadian Social Sciences and Humanities Research Council, Insight Grants 2014
- Project Reviewer for the New Zealand Ministry of Business, Innovation & Employment (MBIE) 2014 Science Investment Round

Reviewer for International Journals:

- International Journal of Human-Computer Studies
- ACM Transactions on Intelligent Systems and Technology, Special Issue on Intelligent Music Systems and Applications
- Engineering Applications of Artificial Intelligence
- IxD&A special issue on “Games for learning” edited by K. Karpouzis, G. Castellano, R. Khaled, E. Dimaraki
- IEEE Transactions on Affective Computing
- Interacting with Computers
- ACM Transactions on Interactive Intelligent Systems
- Mobile Network Applications (ISSN: 1383-469X, 1572-8153)
- Journal of Multimodal User Interfaces, Special issue “Real-Time Affect Analysis and Interpretation: Closing the Affective Loop in Virtual Agents and Robots”

Technical Program Committee Member/Reviewer for International Conferences and Workshops:

- 19th ACM International Conference on Multimodal Interaction (ICMI2017)
- Seventh International Conference on Affective Computing and Intelligent Interaction (ACII2017)
- ACM International Conference on Multimodal Interaction 2016
- IEEE/RSJ International Conference on Intelligent Robots and Systems 2015
- ACM Multimedia Conference 2015
- ACM International Conference on Multimodal Interaction 2015
- 12th Annual Conference of the Italian Association for Cognitive Sciences (AISC) 2015
- Interfaces and Human Computer Interaction (IHCI) 2014
- ICMC14-SMC214

- ACM International Conference on Multimodal Interaction 2014
- International Conference on Intelligent Virtual Agents 2013
- 15th ACM International Conference on Multimodal Interaction 2013
- ACM SIGCHI Conference on Human Factors in Computing Systems
- ACM International Conference on Multimodal Interaction 2012
- Intetain 2011 (link)
- AFFINE 2010, 3rd International Workshop On Affective Interaction in Natural Environments
- IADIS Interfaces and Human Computer Interaction 2010
- LREC Workshop on Multimodal Corpora 2010
- International Computer Music Conference 2009
- 22nd ACM UIST Symposium
- LREC Workshop on Multimodal Corpora 2008
- International Conference on Intelligent Virtual Agents 2007
- Advances in Human-Computer Interaction
- International Conference on Computer Animation and Social Agents 2005
- SIGGRAPH 2004
- CASA 2004

Brief research statement

Research framework

My research focus is on embodied interfaces, that is, interfaces having bodies, like ECAs, and/or interfaces enabling the user to interact through her body to interact with them. More specifically, I define computational models of non-verbal communication inspired by psychological and sociological theoretical models. In the last years, I chose performing arts (e.g., non-verbal communication in music, dance) as a test-bed of these models.

Main research topics

In the above framework, my main interests range from investigating how people can communicate high-level messages using body movement and gesture (i.e., expressivity of movement) to exploiting movement synthesis algorithms to elicit and analyze the socio-affective non-verbal behavior of one or more users in the interaction with an artificial partner (i.e., analysis-by-synthesis approach).

Future projects: Creative Embodied Interfaces

While there exist computer interfaces able to interact with single users in creative tasks, none of them are neither embodied nor social. Also, there are computational frameworks of embodied social interaction, but none of them are targeted to creative joint activity. The Creative Embodied Interfaces paradigm that I am currently investigating deals with the design of embodied interfaces (either with an anthropomorphic or a non-anthropomorphic aspect, being physically or virtually present in the real world) able to produce social, emotional, communicative signals allowing them to be part of a successful creative joint activity with a human user.

Creative Embodied Interfaces will enable a novel interaction paradigm that can be exploited in various fields, including education, healthcare, arts, entertainment, social inclusion, companionship. I seek new grants to pursue my research on this topic, e.g., the EU H2020 call ICT-25-2018-2020 (deadline November 2018) on researching and developing technologies augmenting human interaction in groups.

Methodology overview

I plan to review the state-of-the-art on theoretical models of social presence in a group of users performing a creative joint activity. Grounding on this knowledge, I will design new experiments to collect ad-hoc datasets of creative joint activity in humans-humans and humans-interface interactions. Exploiting my broad experience on computational models I will propose algorithms to compute non-verbal features. On the one hand, I will define a computational model based on the theoretical ones, on the other hand I envisage to use automated learning approaches to enable the interface to autonomously learn these features. Different levels of embodiment (ECAs, non-anthropomorphic representations, robots) will be tested. The model will be evaluated in performing creative joint activity scenarios involving human users.

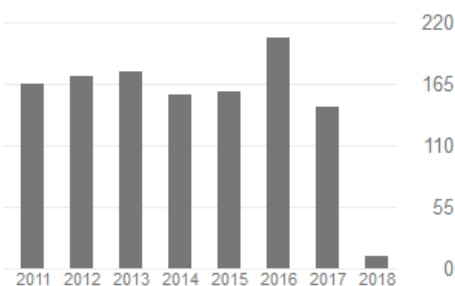
Publications

I published in relevant journals and conferences of my area of research (for example, ACM Transactions on Internet Technology Mancini et al. (2017a), IEEE Transactions on Human-Machine Systems Niewiadomski et al. (2016), IEEE Transactions on Systems, Man and Cybernetics Castellano et al. (2012), ACM Mobile Networks and Applications Varni et al. (2011), and IEEE Transactions on Audio, Speech, and Language Processing Mancini et al. (2007a)).

Indexes

My h-index is **20** on Google Scholar (**1804 citations**) and **12** on Scopus (**618 citations**). My Google Scholar page is available at: <https://scholar.google.it/citations?hl=it&user=RJLyh1wAAAAJ>. My Scopus Author ID is 13008942700.

	All	Since 2013
Citations	1832	855
h-index	20	14
i10-index	43	26



Summary

International journals: 12 (+ 1 to appear in 2018)

International conferences: 38

International workshops: 31

Book chapters: 6

International workshops: 7

Editorials: 2

Patents: 1

International Journals

The SJR score reported for some journal publications is the Scimago Journal Rank <http://www.scimagojr.com>.

* = publications not including my PhD supervisor

bold = 10 best publications (among journals, conferences and workshops)

- Varni et al. (2018) Varni, G., Mancini, M., Fadiga, L., Camurri, A., and Volpe, G. (2018). Synchronisation and soft entrainment as a measure of effectiveness of leadership. *IEEE Transactions on Affective Computing*, to appear (SJR: **Q1**) *
- Niewiadomski et al. (2016) Niewiadomski, R., Mancini, M., Varni, G., Volpe, G., and Camurri, A. (2016). Automated laughter detection from full-body movements. *IEEE Transactions on Human-Machine Systems*, 46(1):113–123 (SJR: **Q1**) * [PDF]
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International Conferences

* = publications not including my PhD supervisor

bold = 10 best publications (among journals, conferences and workshops)

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- Piana et al. (2016a) Piana, S., Alborno, P., Niewiadomski, R., Mancini, M., Volpe, G., and Camurri, A. (2016a). Movement fluidity analysis based on performance and perception. In *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems*, pages 1629–1636. ACM *
- Niewiadomski et al. (2015) Niewiadomski, R., Ding, Y., Mancini, M., Pelachaud, C., Volpe, G., and Camurri, A. (2015). Perception of intensity incongruence in synthesized multimodal expressions of laughter. In *Affective Computing and Intelligent Interaction (ACII), 2015 International Conference on*, pages 684–690. IEEE
- Griffin et al. (2015) Griffin, H., Varni, G., Volpe, G., Lourido, G. T., Mancini, M., and Bianchi-Berthouze, N. (2015). Gesture mimicry in expression of laughter. In *Affective Computing and Intelligent Interaction (ACII), 2015 International Conference on*, pages 677–683. IEEE *

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International Workshops

* = publications not including my PhD supervisor

- **Alborno et al. (2016a)** Alborno, P., Cera, A., Piana, S., Mancini, M., Niewiadomski, R., Canepa, C., Volpe, G., and Camurri, A. (2016a). Interactive sonification of movement qualities - a case study on fluidity. In *Proceedings of Ison 2016, 5th Interactive Sonification Workshop* *

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- Hartmann et al. (2005b) Hartmann, B., Mancini, M., and Pelachaud, C. (2005b). Towards affective agent action: Modelling expressive ECA gestures. In *International conference on Intelligent User Interfaces - Workshop on Affective Interaction, San Diego, CA*
- Peters et al. (2005a) Peters, C., Pelachaud, C., Bevacqua, E., Mancini, M., and Poggi, I. (2005a). Engagement capabilities for ecas. In *AAMAS05 workshop Creating Bonds with ECAs*
- Mancini et al. (2005a) Mancini, M., Bresin, R., and Pelachaud, C. (2005a). From acoustic cues to an expressive agent. In *Gesture in Human-Computer Interaction and Simulation*, pages 280–291. Springer Berlin Heidelberg
- Bevacqua et al. (2004) Bevacqua, E., Mancini, M., and Pelachaud, C. (2004). Speaking with emotions. In *Proceedings of the AISB Symposium on Motion, Emotion and Cognition*, pages 197–214

Book chapters

- Niewiadomski et al. (2013b) Niewiadomski, R., Mancini, M., and Piana, S. (2013b). Human and virtual agent expressive gesture quality analysis and synthesis. *Coverbal Synchrony in Human-Machine Interaction*, pages 269–292 *
- Piana et al. (2013) Piana, S., Mancini, M., Camurri, A., Varni, G., and Volpe, G. (2013). Automated analysis of non-verbal expressive gesture. In *Human Aspects in Ambient Intelligence*, pages 41–54. Atlantis Press *
- Martin et al. (2011) Martin, J.-C., Devillers, L., Raouzaïou, A., Caridakis, G., Ruttkay, Z., Pelachaud, C., Mancini, M., Niewiadomski, R., Pirker, H., Krenn, B., et al. (2011). Coordinating the generation of signs in multiple modalities in an affective agent. *Emotion-Oriented Systems*, pages 349–367
- Hyniewska et al. (2010) Hyniewska, S., Niewiadomski, R., Mancini, M., and Pelachaud, C. (2010). Expression of affects in embodied conversational agents. *Blueprint for affective computing: a sourcebook*, pages 213–221

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- Peters et al. (2007) Peters, C., Pelachaud, C., Bevacqua, E., Ochs, M., Ech Chafai, N., and Mancini, M. (2007). Towards a socially and emotionally attuned humanoid agent. *Fundamentals of verbal and nonverbal communication and the biometric issue*, 18:332–342

Editorials

- Mancini et al. (2017b) Mancini, M., Niewiadomski, R., Hashimoto, S., Foster, M. E., Scherer, S., and Volpe, G. (2017b). Guest editorial: Towards machines able to deal with laughter. *IEEE Transactions on Affective Computing*, 8(4):492–494 *
- Volpe et al. (2010) Volpe, G., Camurri, A., Dutoit, T., and Mancini, M. (2010). Cross-disciplinary approaches to multimodal user interfaces. *Journal on Multimodal User Interfaces*, 4(1):1–2 *

PhD Thesis

- Mancini (2008) Mancini, M. (2008). *Multimodal distinctive behavior for expressive embodied conversational agents*. Universal-Publishers

Patents

- Camurri et al. (2014) Camurri, A., Celante, F., Mancini, M., Varni, G., and Volpe, G. (2014). Network communication architecture and method for the reproduction of multimedia content items. US Patent App. 15/032,992 *

Teaching

Courses

- Name: Affective Computing and Embodied Interfaces
Level: PhD
Date: 9-13 April 2018
Responsibility: I proposed the course to the PhD council of the Department. I am the main responsible for the structuring, planning and conducting the course.
Class size: 10
Hours: 20
Co-teachers: Dr. Radoslaw Niewiadomski (co-teacher 50%)
- Name: Computer Basics & Java Programming
Number: 56704-1718
Level: Bachelor
Date: February-May 2018
Responsibility: I am the responsible for the structuring, planning and conducting the course (both lectures and coursework)
Class size: 80
Hours: 40 hours of lectures with slides and 20 hours of coursework
Website: <http://www.mauriziomancini.org/wordpress/fdi-2018/>
Co-teachers: none
- Name: Social Inclusion, Therapy and Rehabilitation
Number: 90703-1718
Level: Master
Date: October-December 2017
Responsibility: I shared this course with a colleague, we taught 18 hours each. I was responsible for the structuring the course and conducting the theoretical lectures, while my colleague conducted the coursework teaching. During the course the students have to discuss projects that will be part of the final exam
Class size: 5

Hours: 36

Co-teachers: Dr. Simone Ghisio (co-teacher 50%)

- Name: Cultural Fruition, Visual Arts and Digital Signage
 Number: 90702-1718
 Level: Master
 Date: October-December 2017
 Responsibility: I shared this course with a colleague, who was the main responsible for the structuring the course and teaching theoretical lectures. I taught 18 hours of coursework (out of 36)
 Class size: 5
 Hours: 36
 Co-teachers: Prof. Antonio Camurri (main teacher)
- Name: Computer Basics & Java Programming
 Number: 56704-1617
 Level: Bachelor
 Date: February-May 2017
 Responsibility: I was the responsible for structuring, planning and conducting the course (both lectures and course-work)
 Class size: 80
 Hours: 40 hours of lectures with slides and 20 hours of coursework
 Website: <http://www.mauriziomancini.org/wordpress/fdi-2017/>
 Global satisfaction rate: > 84%
 Co-teachers: none
- Name: Computer Basics & Java Programming
 Number: 56704-1516
 Level: Bachelor
 Date: February-May 2016
 Responsibility: I was the responsible for the structuring, planning and conducting the course (both lectures and coursework)
 Class size: 80
 Hours: 30 hours of lectures with slides and 18 hours of coursework
 Website: <http://www.mauriziomancini.org/wordpress/fdi-2016/>
 Global satisfaction rate: > 79%
 Co-teachers: none
- Name: Human-Computer Interaction
 Number: 80158-1415IN
 Level: Master and EMARO
 Date: February-May 2015
 Responsibility: I shared this course with a colleague who was the responsible for structuring and teaching theoretical lectures. I was responsible for planning the coursework lessons and supervising the students projects
 Class size: 25 + 15 EMARO students
 Hours: 15 hours of coursework teaching (out of 48 hours)
 Global satisfaction rate: > 90% and 4.48/5 from EMARO students
 Co-teachers: Prof. Antonio Camurri
- Name: Multimodal systems and interface
 Number: 80164-1314
 Level: Master
 Date: February-May 2014
 Responsibility: I shared this course with a colleague who was the responsible for structuring and teaching theoretical lectures. I was responsible for planning the coursework lessons and supervising the students projects
 Class size: 15
 Hours: 15 hours of coursework teaching (out of 48 hours)
 Co-teachers: Prof. Antonio Camurri
- Name: Multimodal Interfaces
 Level: PhD

Responsibility: I was the main responsible of a single lecture about multimodal interfaces

Class size: 15

Hours: 3 (single lecture)

Co-teachers: none

- Name: Multimodal systems and interface

Number: 80164-1213

Level: Master

Date: February-May 2013

Responsibility: I shared this course with a colleague who was the responsible for structuring and teaching theoretical lectures. I was responsible for planning the coursework lessons and supervising the students projects

Class size: 15

Hours: 15 hours of coursework teaching (out of 48 hours)

Co-teachers: Prof. Antonio Camurri

- Name: Multimodal systems and interface

Number: 80164-1112

Level: Master

Date: February-May 2012

Responsibility: I shared this course with a colleague who was the responsible for structuring and teaching theoretical lectures. I was responsible for planning the coursework lessons and supervising the students projects

Class size: 15

Hours: 15 hours of coursework teaching (out of 48 hours)

Co-teachers: Prof. Antonio Camurri

- Name: Multimodal systems and interface

Number: 80164-1011

Level: Master

Date: February-May 2011

Responsibility: I shared this course with a colleague who was the responsible for structuring and teaching theoretical lectures. I was responsible for planning the coursework lessons and supervising the students projects

Class size: 15

Hours: 15 hours of coursework teaching (out of 48 hours)

Co-teachers: Prof. Antonio Camurri

- Name: C Programming

Level: Bachelor

Date: 2007

Responsibility: I shared this course with a colleague who was the responsible for the course structure and the theoretical lectures. I was responsible for planning the coursework lessons and supervising the students during the programming activity

Class size: 30

Hours: 36

Co-teachers: Prof. Catherine Pelachaud

- Name: C++ programming and XML Language

Level: lifelong learning, equivalent to Master

Date: 2009-2017

Responsibility: I have been the main responsible of these 2 courses of the lifelong learning programme of the University of Genoa. I was the responsible for structuring, planning and conducting all the lectures and coursework of these courses. Each course lasted about 50 hours

Class size:

Hours: 270 (approx.)

Co-teachers: none

Attendee

- Name: Machine Learning Crash Course (MLCC)

Level: PhD

Date: June 2017

Description: 5 full-days PhD-level course; teachers participating to the course will gain machine learning basics, enabling them to teach it to Bachelor students

Class size: 100

Hours: 26

Scientific dissemination

- ICT 2013 Conference and Exhibition, EU Digital Agenda for Europe, Vilnius (November)
Contribution: interaction design and development of a multimodal interactive system.
- Closing session of the European ICT-FET Conference and Exhibition 2011
- “Festival della Scienza” 2010, Genova, Italy (October 29th - November 7th)
Contribution: scientific promoter; interaction design and development of the Sync4All application. The main results of this activity are described in the paper [9] (International Conferences).
- “Festival della Scienza” 2009, Genova, Italy (October 23rd - November 1st)
Contribution: scientific promoter
- “Festival della Scienza” 2008, Genova, Italy (October 23rd - November 4th)
Contribution: scientific promoter

Technological development

- I have been the main developer of the Greta virtual character research platform (<http://pages.isir.upmc.fr/~pelachaud/site/resources.html>) that is still used by the Institut des Systèmes Intelligents et de Robotique (ISIR, France), a joint research laboratory which belongs to the University Pierre and Marie Curie (UPMC) and the Centre National de la Recherche Scientifique (CNRS) for research activities in national and EU projects, see the publications list: <http://pages.isir.upmc.fr/~pelachaud/site/publications.html>. The software architecture I developed is now part of the Greta Core, that has been exploited in many applications: serious game (Tardis¹, Play-Serious, IMMEMO², MaClasse 3D), e-health (Verve³, ANR Acorformed⁴), live performances (CALLAS⁵), emotional platforms (SEMAINE⁶). The Greta Core have found concrete application in technologies developed by the Laboratoire de Traitement et Communication de l'Information (LTCI) and the Institut des Systèmes Intelligents et de Robotique (ISIR) in collaboration with the French company La Cantoche Production⁷.
- I have been one of the main developers of the Gesture Processing Library for the EyesWeb XMI research platform (see http://www.infomus.org/eyesweb_eng.php) which is still the main research tool for the InfoMus laboratory at the University of Genoa (Italy), exploited in several international and EU projects involving large companies, such as Intel and Nokia. The complete list of the projects using EyesWeb can be found here: http://www.infomus.org/research_eng.php. Most of the lab's publications mention EyesWeb as the main research tool: http://www.infomus.org/publications_eng.php.

Programming skills

- C, C++, Java, PHP developer and Object-Oriented programming
- OpenGL advanced developer
- Unity3D
- Matlab and Python programming
- Internet protocols and web development
- Software/hardware development with Arduino

¹http://www.cordis.europa.eu/project/rcn/101351_en.html

²<http://www.rennes.supelec.fr/immemo/>

³http://www.cordis.europa.eu/project/rcn/100250_en.html

⁴<http://www.agence-nationale-recherche.fr/Projet-ANR-14-CE24-0034>

⁵<http://www.callas-newmedia.eu/>

⁶http://www.cordis.europa.eu/project/rcn/85389_en.html

⁷<https://www.livingactor.com/corp/fr/about-us>

Languages

Fluent in Italian (native language), English and French.