Marco Accame, PhD

Our mission at iCub Tech of the Istituto Italiano di Tecnologia (IIT) is to maintain and enhance the iCub and R1 humanoid robotics platforms used by the research lines inside IIT and by the worldwide community. I have the responsibility of the embedded software which runs on the many MPUs inside the robot.

Before IIT, I worked in leader companies in Italy and in the UK. I dealt with topics such as audio-video, Digital Terrestrial TV, SW development on embedded platforms, standardization of wireless transmission standards. I was a 3GPP-RAN1 delegate for Telecom Modus / NEC.

Title:	Ph.D. in Electronic Engineering and Computer Science, with focus on Multimedia and Digital Communications
Current position:	Chief Technician, iCub Tech, Istituto Italiano di Tecnologia, Genova, IT
Date of Birth:	██████████████████ , ███
Home address:	████████████████████
E-mail:	██████████████████████████
Mobile:	████████████

STUDIES

Nov 85	Nov 92	Study at the University of Genova, Italy; qualified as Electronic Engineer (110/110) with a thesis on Digital Still Picture Coding.
Nov 93	Oct 96	Ph.D. student in Electronic Engineering and Computer Science at the University of Genova with thesis: *Stereoscopic video coding using quadtree-constrained region based compensation for motion and disparity*.

COVERED POSITIONS

Jun09	To date	Chief Technician, iCub Tech, Istituto Italiano di Tecnologia, Genova, IT
Oct03	Jun09	R&D Group Manager in URMET Domus SpA, Via Bologna 188/C, Torino, IT
Oct 01	Oct03	Principal Engineer at the Future Systems Architecture Group of Telecom Modus (an NEC subsidiary developing UMTS technology), Leatherhead, Surrey, UK
Mar 00	Sept 01	Engineer at the Embedded Digital Systems Group of Cambridge Consultants Ltd., Cambridge, UK
Oct 98	Mar 00	Development Engineer at the Digital Terrestrial TV Group of Tandberg Television (former News Digital Systems Ltd.), Southampton, UK
Nov 96	Sept 98	Post Doctorate Researcher at DIBE, University of Genoa, Italy
Nov 96	Oct 97	Lecturer of *Communication Systems* at the University of Trento, Italy.
Nov 93	Sept 98	Contracted to work in R&D and industrial projects in which DIBE (University of Genoa) was involved. See attached list of projects.

PUBLICATIONS

Main papers published in journals (j), books (b), conference acts (c), international standards (s).

j1.　M.Kaiser, V.Klingspor, J.d.R.Millan, M.Accame, F.Wallner, R.Dillmann, "Using Machine Learning Techniques in Real-World Mobile Robots", *IEEE Expert*, Vol. 10, No. 2, April 1995

j2.　M.Accame, F.G.B.DeNatale, "Locally Tuned Edge Extraction with Artificial Neural Networks", *Studies in Informatics and Control*, Vol. 5, No. 3, pp. 279-288, September 1996

j3.　M.Accame, F.G.B.DeNatale, "A local ANN-driven criterion for the selection of edge points", *Signal Processing*, Vol. 60, No. 1, pp.11-22, July 1997

j4.　M.Accame, F.G.B.DeNatale, D.D.Giusto, "Hierarchical Motion Estimator (HME) for Block-Based Video Coders", *IEEE Trans. on Consumer Electronics*, Vol.43, No.4, pp.1320-1330, November 1997 (*Awarded by the IEEE Consumer Electronics Society with the Chester Sall Award as the 2nd best paper of IEEE Trans. on Consumer Electronics published in 1997*)

j5.　M.Accame, F.Granelli, "Autocompensation-with-parameter for Motion Field Prediction", *Electronics Letters*, Vol.34, No.1, pp.51-52, 8th January 1998

j6.　M.Accame, F.G.B.DeNatale, D.D.Giusto, High-Performance Hierarchical Block Motion Estimation", *Journal of Real-Time Imaging*, Vol.4, No.1, pp. 67-79, February 1998

j7.　M.Accame, F.G.B.DeNatale, F.Granelli, "An Integrated Approach to Block Based Motion Estimation for Video Coding*", IEEE Trans. on Consumer Electronics*, Vol.44, No.1, Feb. 1998

j8.　M.Accame, F.Granelli, "Hierarchical Progressive Image Coding Controlled by a Region Based Approach*", IEEE Trans. on Consumer Electronics*, Vol.45, No.1, Feb. 1999

j9.　M.Accame, F.G.B.DeNatale, F.Granelli, "Efficient Labeling Procedures for Image Partition Encoding*", Signal Processing*, Vol.80, No.6, pp. 1127-1131, June 2000.

j10.　R.A.Romeo, A.Zocco, A.Parmiggiani, A.Mura, M.Gesino, M.Accame, M.Maggiali, L.Fiorio, "Instrumenting a Robotic Finger to Augment the Capabilities of Robotic Grippers*", IEEE Trans. on Instrumentation and Measurement*, Vol.72, No.TBD, MonthTBD 2023.

b1.　M.Accame, F.G.B.DeNatale, "Intelligent Visual Sensing System for Autonomous Applications", in: Tascini, Esposito, Vito, Zingaretti Eds., *Machine Learning and Perception*, World Scientific Publisher, Singapore, 1996

b2.　M.Accame, "Learning to Control a Visual Sensing System", Chapter 7 of *Making Robots Smarter: Combining Sensing and Action Through Robot Learning*, K.Morik, M.Kaiser, and V.Klingspor, Eds., Kluwer Academic Publishers, Boston, 1999, ISBN: 0792385624

c1.　M.Accame, F.G.B.DeNatale, G.Desoli, D.D.Giusto, "Adaptive 3D Interpolation and Two-Source Video Coding", *Proc. IEEE International Conference on Image Processing, ICIP'94*, Vol. II, pp. 918-922, Austin (Tx), USA, November 1994

c2.　M.Accame, D.D.Giusto, "Adaptive-Size Hierarchical Block Matching for Efficient Motion Compensation for Video Sequences", *Advanced Image and Video Communications and Storage Technologies, Proc. SPIE,* Vol. 2451, pp.112-120, Amsterdam, The Netherlands, March 1995

c3.　M.Accame, F.G.B.DeNatale, D.D.Giusto**,** "Hierarchical Block-Matching for Disparity Estimation in Stereo Sequences", *Proc. IEEE International Conference on Image Processing, ICIP'95*, Vol. II, pp. 374-377, Washington D.C., USA, October 1995

c4.　M.Accame, F.G.B.DeNatale, D.D.Giusto**,** "ANN-driven Edge Point Selection Criterion", *Proc. IEEE International Conference on Image Processing, ICIP'96*, Lausanne, CH, September 1996

c5.　M.Accame, F.G.B.DeNatale, "Lossless Shape Coding Using the Four-Colour Theorem", *Proc. IEEE International Conference on Image Processing, ICIP'98*, Chicago, USA, October 1998

s1.　R1-02-1116, NEC and Telecom Modus, "Fast Switching Closed Loop TX Diversity for HSDPA in Soft Handover", *TSG-RAN Working Group 1 meeting #28*, Seattle, USA, August 2002

s2.　R1-02-1374, NEC and Telecom Modus, "Further Simulation Results on Fast Switching Proposal", *TSG-RAN Working Group 1 meeting #29*, Shanghai, China, November 2002

s3.　R1-03-0117, NEC and Telecom Modus, "System Level Performance of Fast Switching based TxAA for HSDPA Channels", *TSG-RAN Working Group 1 meeting #30*, San Diego, USA, January 2003.

s4.　R1-03-0159, NEC and Telecom Modus, "Text proposal for TR on HSDPA Enhancement - Fast Adaptive Emphasis", *TSG-RAN Working Group 1 meeting #31*, Tokyo, Japan, February 2003.

s5.　R1-03-0707, NEC and Telecom Modus, "Results of system level simulation of Fast Adaptive Emphasis", *TSG-RAN Working Group 1 meeting #33*, New York City, USA, August 2003.

s6.　R1-03-0709, NEC and Telecom Modus, "Robust feedback scheme for closed loop rate control in E-DCH", *TSG-RAN Working Group 1 meeting #33*, New York City, USA, August 2003.