



## Europass Curriculum Vitae



### Personal information

First name / Surname	<b>Giovanni Gualdi</b>
Address	Via Mestre 102, 41125 Modena, Italy
Telephone	Mobile: +39 339 1337328
E-mail	<a href="mailto:info@giovanngualdi.com">info@giovanngualdi.com</a>
WebSite	<a href="http://www.giovanngualdi.com">www.giovanngualdi.com</a>
Nationality	Italian
Date of birth	April 22 <sup>nd</sup> , 1978
Gender	Male

**Occupational field**      **Computer Vision, Image Processing and Machine Learning**

### Work experience

Dates	March 2011 – today
Occupation or position held	Freelance Consultant in Computer Engineering and Science.

Main activities and responsibilities	<p>Founder of Computer Vision Consulting, consulting firm focusing on Image Processing, Computer Vision, and Machine Learning, with strong emphasis over innovation and research. Computer Vision Consulting as of today employs 3 skilled engineers.</p> <p>Being appreciated by his customers, Giovanni's consultant activities broadened to:</p> <ul style="list-style-type: none"> <li>- other technical fields of Computer Engineering and Software Development, such as <ul style="list-style-type: none"> <li>o Embedded Platforms programming,</li> <li>o Simulation and Mathematical software,</li> <li>o Multimedia and Entertainment software;</li> </ul> </li> <li>- management of projects and teams related to Computer Engineering and Science, such as: <ul style="list-style-type: none"> <li>o CTO advisor for MicroLog S.r.l. on 2012-2015;</li> <li>o Technical advisor for ValueSer S.r.l., for preparation of applications to Horizon 2020 "SME Phase 2" European Commission projects; to be mentioned, Cogisen application in 2015, first application from Italy to be funded with approx 2M€.</li> <li>o Manager of overall technical and administrative activities of the funding project "Dai distretti produttivi ai distretti tecnologici 2", Emilia Romagna region, for a total project amount of 125200€ over 2013;</li> <li>o Manager of technical activities for Electic 80 S.p.a. of the ARTEMIS Joint Undertaking project R3-COP (file number ART-010000-2010-5) on 2010-2013;</li> <li>o Team Leader for the development of the embedded control unit for aquariums "Aquatronica Touch Control Unit" (ACQ140) (Q4 2012), Aquatronica S.r.l.</li> </ul> </li> </ul> <p>As software developer, he has taken part to several successful projects such as (*):</p> <ul style="list-style-type: none"> <li>- "Ring Around Trees", EXPO2015 (Q1 2015); design and development of the computer vision engine of the projection-based gaming experience in Exhibit 5 of Children Park at EXPO2015;</li> <li>- "TopView" (Q3 2015); design and development of the embedded smart camera for counting people for a company focused on solutions for business analytics;</li> <li>- Sounds to See, Bolzano Civic Museum (Q4 2013), a multimedia experience of museum visitors; inventor and developer of the computer vision algorithms for facial features recognition;</li> <li>- CarPlay, Apple (Q1 2014); software developer of routines related to CarPlay video streaming on the Infotainment ECU for an important automotive manufacturer;</li> <li>- iRing, IK Multimedia, presented at CES 2014 (Q1 2014); inventor of the algorithm for fast marker detection over iOS;</li> <li>- PromoKiosk, MicroLog S.r.l (Q4 2011), a gaming experience of kiosk users; inventor and developer of the computer vision algorithms for posture and behaviour analysis;</li> </ul> <p>(*): <i>the list might exclude products under development, prototypes or any detail of material under NDA.</i></p> <p>For more details, video and image samples, visit <a href="http://www.giovanqualdi.com">www.giovanqualdi.com</a></p>
Name and address of employer	Own business
Type of business or sector	Computer Engineering and Science
Dates	March 2011 – August 2011
Occupation or position held	Computer Engineer
Main activities and responsibilities	Within the cooperation contract between Imagelab ( <a href="http://imagelab.ing.unimore.it">imagelab.ing.unimore.it</a> , University of Modena and Reggio Emilia) and Acantho S.p.A. (fiber optics telecommunications company) he produces a market analysis and a benchmark for VSaaS (Video Surveillance as a Service) platforms, focusing on video surveillance related aspects.
Name and address of employer	Imagelab, Dipartimento di Ingegneria dell'Informazione, Università degli Studi di Modena e Reggio Emilia, Via Vignolese 905/B, 41125 Modena, Italy.
Type of business or sector	Computer Engineering and Science
Dates	September 2010 – February 2011
Occupation or position held	Computer Engineer
Main activities and responsibilities	Granted with the research fund "Spinner 2013, Persone al Futuro", he works on stereo vision algorithms for the safety of vulnerable road users. He collaborates with ReLab ( <a href="http://www.relab.it">www.relab.it</a> ).
Name and address of employer	Consorzio Spinner, Villa Gandolfi Pallavicini, Via Martelli 22-24, Bologna
Type of business or sector	Technology Transfer in Computer Engineering and Science

Dates	September 2008 – November 2009
Occupation or position held	Research Staff Member
Main activities and responsibilities	Within the cooperation contract between Imagelab (imagelab.ing.unimore.it, University of Modena and Reggio Emilia) and Bridge 129 S.p.A. (company producing safety and security video analytics), he develops a video analytics prototype for live surveillance of construction working sites with PTZ cameras: the application aims at the automatic detection of workers not wearing hard-hats.
Name and address of employer	Bridge 129 S.p.A., Via Gramsci 86/A, 42124 Reggio Emilia, Italy
Type of business or sector	Scientific and Applied Research in Computer Engineering and Science
Dates	February 2006 – January 2007
Occupation or position held	Research Staff Member
Main activities and responsibilities	Within the cooperation contract between Imagelab (imagelab.ing.unimore.it, University of Modena and Reggio Emilia) and Sistemi Integrati S.r.l. (private security company), he develops a prototype for live video streaming from and to surveillance patrolling vehicles and security officers with smartphones.
Name and address of employer	Imagelab, Dipartimento di Ingegneria dell'Informazione, Università degli Studi di Modena e Reggio Emilia, Via Vignolese 905/B, 41125 Modena, Italy.
Type of business or sector	Scientific and Applied Research in Computer Engineering and Science
Dates	July 2004 – December 2005
Occupation or position held	Manager of Research and Innovation Division
Main activities and responsibilities	He leads a team of young talented engineers of the Research & Innovation Division of FreeFile, aiming at the definition and development of new software modules for the company products. FreeFile is a software house which operates in the management software development; within this activity, he focuses on RFID sensor networks deployment and he establishes a partnership with the Mechatronic Department of the University of Trencin (Slovak Republic).
Name and address of employer	FreeFile S.r.l., Via Margotti 10, Casalecchio Di Reno, Bologna, Italy
Type of business or sector	Information and Communication Technologies
Dates	July 2003 – July 2004
Occupation or position held	Research Associate
Main activities and responsibilities	Within a research group of the MMSL (Mobile and Media Streaming Lab), he addresses the definition and deployment of a prototype for goods tracking in supply chain. He ends up producing a vision-based object tracking application through wireless sensor networks.
Name and address of employer	Hewlett Packard Laboratories, 1501 Page Mill Road, Palo Alto, California, USA
Type of business or sector	Research And Development
Dates	August 2002 – June 2003
Occupation or position held	Research Staff Member
Main activities and responsibilities	He focuses on research in computer vision, and specifically he serves as research staff on vision-based object tracking with multiple cameras.
Name and address of employer	Computer Vision and Robotics Research (CVRR) Lab, University of California, San Diego, 9500 Gilman Drive La Jolla, California, USA
Type of business or sector	Scientific and Applied Research in Computer Science
<b>Education and training</b>	
Dates	January 2007 – January 2010
Title of qualification awarded	Phd in Computer Engineering and Science

Principal subjects/occupational skills covered | Video Surveillance through Computer Vision and Multimedia Streaming in mobile context. Phd Thesis by the title: "Video Streaming and Video Surveillance in Mobile Scenarios".

Name and type of organisation providing education and training | Information and Communication Technologies Doctorate School, University of Modena and Reggio Emilia

Level in national or international classification | ISCED 6

Dates | October 1997 – June 2003

Title of qualification awarded | Laurea (i.e. 5 years study course with final thesis), in Computer Engineering; final mark 110/110 cum laude.

Principal subjects/occupational skills covered | Computer Engineering with focus on Industrial Applications  
Laurea Thesis by the title: "Camera Handoff: real time tracking of moving objects in distributed video networks".

Name and type of organisation providing education and training | Faculty of Engineering, University of Modena and Reggio Emilia

Level in national or international classification | ISCED 5

**Personal skills and competences**

Mother tongue | Italian

Other languages

Self-assessment

European level (\*)

English

German

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient	C1	Proficient	C1	Proficient	C1	Proficient	C1	Proficient
A1	Basic	A1	Basic	A1	Basic	A1	Basic	A1	Basic

(\*) [Common European Framework of Reference for Languages](#)

Social skills and competences | Good experience in public speaking, feeling at complete ease; skill acquired through the several experiences as public speaker even before the beginning of the professional career. He has been *Invited* speaker to a conference (11<sup>th</sup> Bay Area Vision Meeting, May 2004, Palo Alto, California).  
Ability to adapt to multicultural environments; skill acquired during the time spent in California, USA.  
Flexible in assignments, attentive to details, self-motivated: skills acquired thanks to the several different technical assignments carried out as Phd candidate and after Phd graduation.  
Understands creative processes and capable of systems thinking: skills acquired through the several works carried on in both scientific and applied research projects;

Organisational skills and competences | Experience in project and team management; skill acquired through the management of several medium/long term projects.  
Understands governance and administrative systems: Doctorate School Students Representative on years 2008 and 2009.  
Supervisor for several master student theses, both in Italy and abroad (Slovak Republic).

Technical skills and competences	<p><u>Programming:</u></p> <ul style="list-style-type: none"> <li>• Programming Languages, Libraries and Frameworks: <ul style="list-style-type: none"> <li>○ C ANSI and C++ STL,</li> <li>○ QT,</li> <li>○ Matlab,</li> <li>○ OpenCV, FFmpeg, x264,</li> </ul> </li> <li>• IDE: <ul style="list-style-type: none"> <li>○ Visual Studio,</li> <li>○ Eclipse,</li> <li>○ QtCreator</li> </ul> </li> <li>• Compilers: <ul style="list-style-type: none"> <li>○ gcc, g++ (both under Unix/Linux and under Windows with mingw and cygwin),</li> <li>○ MS compiler,</li> <li>○ cross compilers from x86 targeting ARM architectures, for Linux and WindowsCE</li> </ul> </li> </ul> <p><u>Embedded Architectures ARM:</u></p> <ul style="list-style-type: none"> <li>• Arm programming (iMX Freescale, Sitara Texas Instruments, Broadcom)</li> </ul> <p><u>Sensors:</u></p> <ul style="list-style-type: none"> <li>• Cameras: <ul style="list-style-type: none"> <li>○ rectilinear, fisheye, PTZ and digital PTZ cameras,</li> <li>○ stereo, active stereo,</li> <li>○ structured light depth sensors (e.g. Kinect, PrimeSense)</li> <li>○ ToF (e.g. Softkinetic DS325)</li> </ul> </li> <li>• Identification Technologies: <ul style="list-style-type: none"> <li>○ RFID (HF and UHF, both active and passive), in indoor and outdoor contexts,</li> <li>○ Biometry: biometric id through fingerprinting and fingerprint template matching.</li> </ul> </li> </ul> <p><u>Multimedia and Video Streaming:</u></p> <ul style="list-style-type: none"> <li>• Video Codecs: H.264, H.263, MPEG4, MPEG2, MPEG, MJPEG;</li> <li>• Video streaming systems: Windows Media, Real Media, Helix DNA, VideoLAN, FFmpeg</li> <li>• Network communications for wireless media streaming, especially Radio-mobile networking with GPRS, E-GPRS, UMTS tailored for live multimedia streaming.</li> </ul>
Artistic skills and competences	Photography, amateur.
Driving licence	Regular Car Driving License (Italian Driver License, B Cat.)

## Additional information

### PUBLICATIONS, Journal Papers

1. G. Galdi, A. Prati, R. Cucchiara, "Multi-Stage Particle Windows for Fast and Accurate Object Detection" IEEE Transactions on Pattern Analysis and Machine Intelligence, vol. 34, n. 8, pp. 1589-1604, 2012.
2. G. Galdi, A. Prati, R. Cucchiara, "Contextual Information and Covariance Descriptors for People Surveillance: An Application for Safety of Construction Workers", in EURASIP Journal on Image and Video Processing, vol. 2011, 2011
3. G. Galdi, A. Prati, R. Cucchiara, "Polar representation of covariance descriptors for circular features", in IET Electronic Letters, Vol. 46, n. 15, p.1063-1064, July, 22nd 2010
4. R. Cucchiara, G. Galdi, "Mobile Video Surveillance Systems: an Architectural Overview", in Mobile Multimedia Processing: Fundamentals, Methods, and Applications; LNCS State-of-the-Art Surveys, v. 5960/2010, pp. 89-109, March 2010, editors Xiaoyi Jiang, Matthew Ma, Changwen Chen.
5. G. Galdi, A. Prati, R. Cucchiara, "Video Streaming for Mobile Video Surveillance" in IEEE Transactions on Multimedia, vol. 10, n. 6, pp. 1142-1154, October, 2008
6. S. Pradhan, G. Lyon, I. Robertson, L. Erickson, L. Repellin, C. Brignone, M. Mesarina, B. Serra, V. Deolalikar, T. Connors, M. Jam, J. Recker, C. Gouguenheim, I. Robinson, C. Sayers, G. Galdi, "RFID and Sensing in the Supply Chain: Challenges and Opportunities", HP Laboratories Palo Alto, Feb. 9, 2005

### PUBLICATIONS, Patents

7. Inventors: G. Galdi, C. Brignone, S. Pradhan; Assignee: Hewlett-Packard Development Company, L.P. (Houston, TX), "Monitoring an object with identification data and tracking data", United States Patent 7,057,509 (Issued Patent)
8. Inventors: G. Galdi, C. Brignone, S. Pradhan; Correspondence Name: Hewlett-Packard Company, (Fort Collins, CO), "Multi-sensor system for identification and data collection", United States Patent Application Number 11/048,291 (Patent Pending)

### PUBLICATION, Conference Proceedings (selected publications only)

9. C. Pane, M. Gasparini, G. Galdi, A. Prati, R. Cucchiara, "A People Counting System for Business Analytics" in Proceedings of the 10th IEEE International Conference on Advanced Video and Signal-Based Surveillance, Kraków, Poland, Aug. 27-30, 2013
10. G. Galdi, A. Prati, R. Cucchiara, "A Multi-Stage Pedestrian Detection Using Monolithic Classifiers", in Proceedings of the 8th IEEE International Conference on Advanced Video and Signal-Based Surveillance, 2011
11. G. Galdi, A. Prati, R. Cucchiara, "Multi-Stage Sampling with Boosting Cascades for Pedestrian Detection in Images and Videos", Proceedings of 11th European Conference on Computer Vision (ECCV 2010), Crete
12. G. Galdi, A. Prati, R. Cucchiara, "Perspective and Appearance Context for People Surveillance in Open Areas", Proceedings of 2nd International Workshop on Use of Context in Video Processing (UCVP 2010), San Francisco (CA), USA, 2010
13. G. Galdi, A. Prati, R. Cucchiara, "Covariance Descriptors on Moving Regions for Human Detection in Very Complex Outdoor Scenes" in Proceedings of ACM/IEEE International Conference on Distributed Smart Cameras (ACM/IEEE ICDSC 2009), Como, Italy, Aug. 30, Sept. 1-2, 2009
14. G. Galdi, A. Prati, R. Cucchiara, E. Ardizzone, M. La Cascia, L. Lo Presti, M. Morana, "Enabling technologies on hybrid camera networks for behavioral analysis of unattended indoor environments and their surroundings" in Proceedings of 1st ACM Workshop on Vision Networks for Behavior Analysis, (colocated with ACM Multimedia 2008), Vancouver, British Columbia, Canada, pp. 101-108, October 31, 2008
15. G. Galdi, Albarelli, A. Prati, Torsello, Pelillo, R. Cucchiara, "Using Dominant Sets for Object Tracking with Freely Moving Camera" in Proceedings of 8th Int'l Workshop on Visual Surveillance, (colocated with ECCV 2008), Marseille, France, October 17, 2008
16. G. Galdi, A. Prati, R. Cucchiara, "An Open Source Architecture for Low-Latency Video Streaming on PDAs" in Proceedings of the 9th IEEE International Symposium on Multimedia (ISM2007), Taichung, Taiwan, pp. 302-309, Dec. 10-12, 2007
17. G. Galdi, A. Prati, R. Cucchiara, "Mobile Video Surveillance with Low-Bandwidth Low-Latency Video Streaming" in Proceedings of ACM Workshop on Mobile Video (in conjunction with ACM Multimedia 2007), Augsburg, Germany, pp. 67-72, Sept. 28, 2007
18. G. Galdi, R. Cucchiara, A. Prati, "Low-latency Live Video Streaming over Low-Capacity Networks" in Proceedings of the 8th IEEE International Symposium on Multimedia (ISM2006), San Diego, CA - USA, pp. 449-456, Dec. 11-13, 2006

## Annexes

### Recommendation Letters:

Dr. Salil Pradhan (CTO, RFID Program, HP) and Prof. Mohan Trivedi (CVRR Lab. Director, University of California San Diego)



Hewlett-Packard Laboratories  
1501 Page Mill Road  
Palo Alto, CA 94304  
www.hp.com

July 15, 2005

Subject: Letter of Recommendation for Mr. Giovanni Gualdi

To Whom It May Concern:

Giovanni worked in HP laboratories, under my direct supervision from July 2003 to June 2004. His main responsibility was to design, develop and deploy a real time; vision sensors based system, integrated into the ubiquitous sensor system that my group is working on.

He was introduced to me with strong recommendation by Professor Mohan M. Trivedi, Director of Computer Vision and Robotics Research Laboratory, University of California, San Diego, where Giovanni spent 1 year for the preparation of his master thesis.

During the course of his assignment here in HP Labs, Giovanni quickly proved himself to be an able researcher and a hard worker; he has definitely shown professional attitude, cooperative nature and true creativity.

I was quite impressed by Giovanni's ability to build up from scratch and in short time a fully working vision system prototype that, based on embedded devices and on Linux operating system, performs visual tracking and interacts with RFID sensors and rendering 3D applications.

The work was presented by Giovanni to the Conference "10th Bay Area Vision Meeting" and the prototype has become part of the "RFID Center Of Excellence" of HP, Palo Alto, California.

Moreover he has been the first author of 3 invention disclosures submitted for being patented.

I offered him to stay longer with us in HP Labs, and I regretted his decision to leave USA; I would have definitely entrusted Giovanni with more responsibility on new or existing projects and assignments.

I certainly believe that he has what it takes to be a talented computer engineer and, none the less, a brilliant project manager.

Sincerely,

Salil Pradhan  
CTO, RFID Program  
HP Labs, Palo Alto, CA





May 23, 2003

To Whom It May Concern:

I am writing this note in support of Mr. Giovanni Gualdi. I have known him for the past one year as a bright, hardworking and very highly motivated student and budding researcher. He was introduced to me during my visit to the University of Modena in Italy. At the recommendations of his professors we invited him to join our Computer Vision and Robotics Research Laboratory as a visiting student.

We have assigned him projects dealing with motion analysis in both outdoor and indoor scenes. He has made very good use of our extensive laboratory resources to concentrate on the development of algorithms for our Distributed Video Arrays. Our research in this area is of interest and relevance to traffic incident management, monitoring and surveillance applications. He has used our novel indoor intelligent rooms for some experiments dealing with person tracking.

Giovanni is performing very well in his assignments and he has impressed me with his creativity, hardwork, professionalism and cooperative nature. I am expecting his contributions to be part of at least one good publication.

I expect him to be a very valuable contributor in the professional assignments which he will undertake after completing his appointment in our Laboratory. I recommend him very highly.

With best regards,

Mohan M. Trivedi, Director CVRR Laboratory  
Professor, Electrical and Computer Engineering Department  
858.534.7398  
trivedi@ece.ucsd.edu