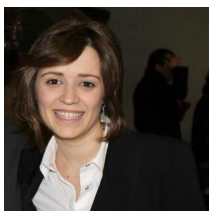


PERSONAL INFORMATION

Valentina Vasco



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✉ Valentina.Vasco@iit.it vale88.vasco@gmail.com

Sex F | Date of birth 04/12/1988 | Nationality Italian

EDUCATION AND TRAINING

Currently from November 2014

**Ph.D. student in Bioengineering and Robotics – Advanced and Humanoid Robotics**

iCub Facility, Istituto Italiano di Tecnologia – 30, Via Morego, Genova, Italy

Department of Informatics, Bioengineering, Robotics, System Engineering – DIBRIS, University of Genova, Via All'Opera Pia 13, Genova, Italy

**Research topic:** Exploiting the benefits of neuromorphic DVS (Dynamic Vision Sensor) cameras for the recognition and tracking of fast moving targets, to allow a robust interaction of the neuromorphic humanoid robot iCub with a dynamic environment.

**Main activities:** Processing spatio-temporal event-driven data from DVS camera, Use of machine learning techniques to develop an ego-motion compensation strategy on the neuromorphic iCub, Development of a corner detection algorithm suitable for event-based data, Geometric and filter-based methods for event-based optical flow computation, Evaluation of a bio-inspired approach for disparity estimation using the event-driven stereo vision system of the iCub.

**Used tools:** Matlab, C++ in Qt creator/Ubuntu environment

**Attended workshops:**

- Capocaccia 2016: The Cognitive Neuromorphic Engineering Workshop
- Brains, Minds and Machines Workshop

**Attended courses:**

- Modeling neuronal structures from single neurons to large-scale networks
- MLCC 2015 – A Machine Learning Crash Course
- C++ programming techniques
- Robot Programming
- An Introduction to Human-Robot Interaction

**Attended schools:**

- Gaussian Process Winter School 2015
- The iCub Summer School Veni Vidi Vici 2015
- International Computer Vision Summer School
- Vision and Sports Summer School

September - December 2016

**Visiting student at Institut de la Vision, Paris**

Vision and Natural Computational Group – 74, Rue du Faubourg Saint Antoine, Paris, France

**Main activities:** Improving event-driven visual motion estimation integrating intensity measurements from the ATIS (Asynchronous Time-Based Image Sensor) camera.

July 2013

**Italian qualification to exercise the profession of engineer, cat. A**

University of Naples "Federico II", Italy

October 2010 – March 2013

**Master Degree in Biomedical Engineering cum laude**

University of Naples "Federico II", Italy

Advanced analysis of biomedical signals for clinical applications, Processing of biomedical images, Electromagnetic fields in diagnosis and therapy, Biomedical instrumentation and clinical engineering, Management and automation of health systems, Health information systems, Medical Sciences.

**Thesis title:** Human identification via ECG processing: temporal and amplitude features.

**Thesis topic:** Advanced analysis of biomedical signals for clinical applications. In this work, I demonstrated the feasibility of the electrocardiographic signal to identify human subjects, as opposed to conventional systems (fingerprint, iris, voice etc.).

**Main activities:** Analysis and processing of signals using Matlab, use of Cygwin, use of pattern recognition and machine learning developed with Weka using Bayesian classifier, neural networks with backpropagation algorithm and decision tree.

September 2006 – May 2010

### Bachelor Degree in Biomedical Engineering cum laude

University of Naples "Federico II", Italy

Theory of signals and systems, Analysis of biomedical signals and data, Electromagnetic fields, Principles of Bioengineering, Biomaterials, Computer science, Health management

**Thesis title:** Studio dell'Heart Rate Turbulence.

**Thesis topic:** Processing of biomedical signals. In this work, I studied the HRT signal to identify patients at risk of sudden cardiac death.

**Main activities:** Analysis of signals using Matlab for statistical analysis.

October 2004 – June 2005

### Trinity, grade 7

Scientific High School "Cristoforo Colombo", Marigliano (NA), Italy.

Project: The art in English

September 2001 – July 2006

### High school diploma, 100 /100

Scientific High School "Cristoforo Colombo", Marigliano (NA), Italy.

Mainly scientific subjects

## WORK EXPERIENCE

From January 2014 – October 2014

### Scholarship grant

Istituto Nazionale Tumori IRCCS – Fondazione Pascale, Via Mariano Semmola 52-108, Napoli, Italy

Advanced training course in radiobiology with the use of proton beam: processing of medical images, medical diagnostic imaginin, physics of ionizing radiation, elements of radiation protection, medical physics instrumentation, radiotherapy and treatment planning.

**Business or sector:** Research

From July 2013 – October 2013

### Internship

Gesan s.r.l, Viale Italia 39, San Nicola La Strada, Caserta, Italy

Analysis and comprehension of processes that take place within a hospital reality, through the definition of workflow, software testing, analysis of advanced telecommunication and information technologies for healthcare at distance and development of technical relations, study of ontologies and inference.

**Business or sector:** ICT

## PERSONAL SKILLS

Mother tongue

Italian

Other language(s)

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
B2	B2	B2	B2	B2

Communication skills

Excellent communication/presentation skills: presented data clearly and confidently to both small and large groups. Ability in working in team, acquired during the academic courses, through the participation to scientific team projects, and my current Ph. D. research, joining the NSI (Neuromorphic Systems Interfaces) research team. Strong synthesizing and writing skills: submitted scientific papers in international conferences.

Organisational / managerial skills

Good organisational skills, ability in managing team projects, acquired during both the academic courses and in the domestic field.

Computer skills

Optimal knowledge of Matlab. Good use of C++, Github, Office(Word, Excel, Access, PowerPoint), Cisco, Cygwin and Weka. Basic knowledge of SQL.

Other skills

Hobbies: sport (five-a-side football performed), reading (thriller), travelling.

Driving license

Driving license cat. B

## ADDITIONAL INFORMATION

## Publications

V. Vasco, A. Glover and C. Bartolozzi, **Fast Event-based Harris Corner Detection Exploiting the Advantages of Event-driven Cameras**. In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2016), pages 4144–4149, October 2016.

V. Vasco, A. Glover, Y. Tirupachuri, F. Solari, M. Chessa and C. Bartolozzi, **Vergence Control with a Neuromorphic iCub**. In IEEE-RAS International Conference on Humanoid Robots (Humanoids 2016), November 2016. In press.

## Notes

Complete availability for travelling.  
Strong interest in signal processing, robotics and neuroscience.  
Enrolled in Employment Exchange from April 11, 2014.

In compliance with the Italian Directive 675/96 and with D.I. 196/03, I hereby authorize you to use and process my personal details contained in this document.

Date 16/03/2017

Signature Valentina Vasco

