Giovanni **Claudio**
R&D Robotics Engineer

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Robotics engineer specialized in sensor-based robot control

Experience

R&D Robotics Engineer at INRIA
Rennes, France

Lagadic Team, Lead by François Chaumette
Nov 2013 - Now

- Design, development and integration of sensor-based control algorithms on mobile, industrial robots and quadcopters.
- Created a framework based on ROS, MATLAB/Simulink, and V-REP, for a fast prototyping of robot control algorithms.
- Development of applications for the humanoid robots Romeo and Pepper, of SoftBank Robotics:
    - Perception algorithms: automatic object detection and real-time tracking using 2D and RGB-D cameras.
    - A whole-body control framework using visual servoing to improve accuracy in grasping and dual arm manipulation.
    - Navigation and SLAM with the robot Pepper (ongoing).
- Active contributor to open-source software (ROS, ViSP).
- Supervision of student internships.

Internship at IRCCyN
Nantes, France

"Pose and velocity estimation for high-speed robot control"
Feb - Sept 2013

- Development of a C++ multithreading algorithm to estimate the pose and velocity of a high-speed parallel robot.
- Design of a visual system with high-performance CoaXPress cameras.

Employee at Spack Srl
Genoa, Italy

IT consulting
Jul - Sept 2008

Technical assistant for hardware and software updates of Carige bank's branch offices.

Education

Master ARIA (Control Engineering, Robotics and Applied Informatics): Advanced Robotics
Italy and France

École centrale de Nantes (ECN) and University of Genoa (UNIGE) (Double Degree)
2011-2013

Vision-Based Control, Computer Vision, Neural Networks, Machine Learning, Real-Time Systems, Embedded Systems, Robot Programming, Linear and Non Linear Control Theory, Optimization Techniques, Mechanical Design Methods, Advanced Modeling of Robots, Identification and Control of Robots, Humanoid and Walking Robots, Optimal Kinematic Design of Robots.

Bachelor's Degree in Computer Science Engineering
Italy

University of Genoa (UNIGE)
2008-2011

Skills

Programming	C/C++, MATLAB *(Advanced)*, Python *(Intermediate)*, Java *(Basic)*
Libraries	OpenCV, ViSP *(Advanced)*, PCL, Panda3D *(Intermediate)*, Cuda *(Basic)*
Web	HTML, CSS, PHP, SQL *(Basic)*
Tools and Softwares	ROS, V-REP, Simulink, R, GIT, SVN, CMake, Doxygen, Blender
OS	GNU/Linux, Microsoft Windows
Robots	Nao, Romeo, Pepper, Pioneer P3-DX, Thymio, Adept Viper s650, OrthoGlide, Comau robot
Languages	Italian *(Native)*, English *(Advanced)*, French *(Intermediate)* and Spanish *(Basic)*

Extracurricular Activities

Online courses:

Android Development for Beginners: on Udacity, organized by Google — *Completed*

Convolutional Neural Networks for Visual Recognition: organized by Stanford University — *Currently on*

Artificial Intelligence for Robotics, Programming a Robotic Car: on Udacity, organized by Georgia Tech — *Next in the pipeline*

OpenLab   *Genoa, Italy*

OFFICER   *2009 - now*

OpenLab is a club recognized by the University of Genoa. The aim of the club is to spread IT culture and Free Software both inside and outside the university. We organize talks, projects, thematic events, workshops and open courses.

Projects and Software

ViSPNaoqi and RomeoTK   *INRIA*

COLLECTION OF DEMOS, CLASSES, TOOLS AND DATA FOR THE HUMANOID ROBOTS ROMEO AND PEPPER   *C++, Python*

Demonstrations based on automatic object detection, model-based tracking, template tracking, 3D point cloud segmentation, augmented reality, text detection on natural images, face detection and recognition, sound localization and speech recognition.

MATLAB ROS Bridge   *INRIA*

SIMULINK LIBRARY   *C++, ROS*

A bridge for creating ROS nodes in MATLAB and Simulink. Presented at the ICRA 2014 Workshop.

V-REP ROS Bridge   *INRIA*

PLUGIN FOR V-REP   *C++, ROS*

The main application of the bridge is to control the V-REP simulation using ROS messages and services.

Stay Alert! - Ford   *UNIGE*

MACHINE LEARNING COMPETITION   *R, MATLAB*

A classifier to detect whether the driver is alert or not, using data acquired while driving.

Design and Development of a Modular CMS for a Student Club   *UNIGE*

BACHELOR THESIS (UNIVERSITY OF GENOA)   *PHP, SQL, CSS, HTML*

A complete Content Management System (CMS) framework which can be easily customized by the user.

Presentations

Journées Nationales de la Robotique Humanoïde   *Toulouse, France*

"WHOLE-BODY CONTROL WITH VISUAL SERVOING"   *Jun 2016*

Presentation of a whole-body control framework with visual servoing tasks for object manipulation and gaze control.

1st Meeting: "Just like Robotics, you have a great future"   *Nantes, France*

"A CAREER AS A ROBOTICS RESEARCH ENGINEER"   *Feb 2016*

Presentation for students and industrial partners of the EMARO consortium about my experience after graduating from ECN.

Robotex Tech days organized by Heudiasyc   *Compiègne, France*

"TEXT DETECTION IN NATURAL IMAGES"   *Jul 2015*

Presentation of an algorithm that allows the humanoid robot Romeo to read text from natural images, by using the Stroke Width Transform (SWT) and the OCR engine Tesseract.

Other interests

Music: Pop/rock singer

Member of Mika's choir: Concert at Roundhouse in Chalk Farm, 13 Dec 2012   *London, UK*

AIMS Summer School: Courses attended: Cabaret class, Vocal Technique, Musical class (2012)   *Eastbourne, UK*

1st Place: Singing competition "Solo per una voce". Jury headed by TOSCA. Prize: AIMS Summer School (2012)   *Genoa*

Courses: Pop/Rock singing (2008-2012) and piano lessons (1998 - 2002)   *Genoa*

Choir: Bariton in the polyphonic choir "I polifonici di Genova"(2003 - 2008) and "JanuaVox" (2001-2003)   *Genoa*