Giovanni **Claudio**

R&D Robotics Engineer

jokla89@gmail.com | www.jokla.me | jokla | giovanniclaudio

Robotics engineer specialized in sensor-based robot control, visual servoing, computer vision and machine learning

Experience

R&D Robotics Engineer at INRIA

Rennes, France

Lagadic Team, Lead by François Chaumette

Nov 2013 - Exp. Nov 2016

- Sensor-based robot control, mainly visual servoing to control mobile, industrial, humanoid robots and quadcopters.
- Creation of a framework for development of control algorithms for robotic platforms based on ROS, Matlab/Simulink and V-REP.
- From September 2014 in charge of the humanoid robot Romeo from Aldebaran.
- Application for Romeo: objects detection, tracking and grasping, two handed-manipulation, human-robot interaction (see projects).

Internship at IRCCyN

Nantes, France

"Pose and velocity estimation for high speed robot control" (Prof. Philippe Martinet)

Jan - Feb 2013

Design of a visual system with high speed cameras and development of a multithreading C++ algorithm to estimate pose and velocity of a high speed parallel robot end-effector at high frequency (2 kHz).

Employee at Spack Srl

Genoa, Italy

IT consulting

Jul - Sept 2008

After a training time in Thera S.p.a. I was involved in the hardware and software update of Carige bank's branch offices.

Education

Master ARIA (Control Engineering, Robotics and Applied Informatics): Advance Robotics

Nantes, France

Ecole centrale de Nantes (ECN)

2012-2013

Research methodology, Advanced modeling of robots, Identification and control of robots, Humanoid and walking Robots, Optimal kinematic design of robots, Capture and simulation of human motion, Vision based control.

Master in Robotics Engineering

Genoa, Italy

University of Genoa (UNIGE)

2011-2013

Control Of Linear Multi-Variable System, Non Linear Control Theory, Real Time Systems, Mechanics Of Mechanism And Machines, Computer Vision, Modeling And Control Of Manipulators, Robot Programming, Artificial Intelligence, Neural Network, Machine Learning, Optimization Techniques, Embedded Systems, Mechanical Design Methods.

Bachelor's Degree in Computer Science Engineering

Genoa, Italy

University of Genoa (UNIGE)

2008-2011

Skills

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

Extracurricular Activity

Online courses:

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

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

Developing Android Apps: on Coursera, organized by Google — *Currently on*

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

Collections of demos, classes, tools and data for the humanoid robot Romeo from Aldebaran *C++, Python*

- VispNaoqi is a library that provides tools to manage the robot Romeo.
- RomeoTK contains demonstrations: objects grasping, two handed-manipulation for holding a tray and solving a ball-in-maze game in augmented reality, text detection and OCR on natural images and classes: face detection and recognition, color detection, object detection, model-based tracking, speech recognition, sound localization, arm and head visual servoing controller.

MATLAB ROS Bridge

Bridge ROS for MATLAB/Simulink *C++, ROS*

Set of Matlab C++ S-functions that can be used to synchronize Simulink with the system clock, thus obtaining a soft-real-time execution and interface Simulink blocks with other ROS nodes. Presented at the ICRA 2014 Workshop.

V-REP ROS Bridge

Bridge ROS for V-REP *C++, ROS*

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

Stay Alert! - Ford

Machine learning competition *R, MATLAB*

The objective was to design a classifier to detect whether the driver is alert or not, employing data that are acquired while driving.

Design and Development of a Modular CMS for a Student Club

Bachelor Thesis (University of Genoa) *PHP, SQL, CSS, HTML*

Planning and developing a complete ”Content Management System” (CMS) framework which can be easily customized.

Presentations

“Just like Robotics, you have a great future” *Nantes, France*

1st Meeting Ecole Centrale de Nantes *Feb. 2016*

- Presentation for students and industrial partners of EMARO consortium about my experience after the graduation at ECN.

Robotex Tech days 2015 organized by Heudiasyc *Compiègne, France*

“Text Detection in natural images” *Jul. 2015*

- Showed how the Stroke Width Transform (SWT) and the OCR engine Tesseract can be used for the detection and recognition of text in natural image. I used this algorithm to make the robot Romeo able to find and read text using images coming from its camera.

Journès Nationales de la Robotique Humanoïde *Nantes, France*

“Grasping by Romeo with visual servoing” *Jun. 2015*

- Presented a framework for humanoid robot vision-based control, for objects grasping.

Robotex Tech days 2014 organized by Gipsa-Lab *Grenoble, France*

“Interfacing MATLAB/Simulink with V-REP via ROS” *Jul. 2014*

Other interests

Music: Pop/rock singer

Chorister of Mika: 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*