



Personal information

Surname(s) / First name(s)

Address(es)

Telephone(s)

Email(s)

Nationality(-ies)

Date of birth

Gender

BELLICOSO Carmine Dario

Via Ferriera, 5
83100 Avellino (AV)
Italy

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8032, Zürich
Switzerland

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bellicosodario@gmail.com

Italian

November 15th, 1983

Male



Occupational field

Robotics / Control Systems Engineer

Work experience

August 2014 – Present

Project Engineer at Autonomous Systems Lab, ETH Zürich.
Part of the Legged Robotics team. Research currently focused on planning and software engineering on the StarLETH platform.

April 2014 – July 2014

Research Assistant at PRISMA Lab, University of Naples Federico II.
Research activity:

- Development and implementation of autonomous navigation techniques for a UAV both in a natural environment and in presence of obstacles (SHERPA European Project, <http://www.sherpa-project.eu/sherpa/>)
- Development and implementation of a software platform for the control of a UAV equipped with a robotic manipulator (ARCAS European Project, <http://www.arcas-project.eu>)
- Impedance control of an ultralight robotic arm

2011-2013

Teacher of private lessons in analog electronics, mathematics, programming

Education

March 2014

Master's Degree in Automation Engineering from University of Naples "Federico II"
Title: "Modeling and Control of an Ultralight Robotic Manipulator for Aerial Robotics Applications"
Advisor, Co-advisor: Vincenzo Lippiello, Fabio Ruggiero
Keypoints:

- Kinematic and Dynamic modeling of a 5 DOF robotic manipulator
- Realization of the control algorithm and communication software for a 5 degrees of freedom ultralight robotic arm
- Implementation of control algorithms (position, velocity and torque control) for trajectory tracking

Final vote: 110/110

Demo video: <http://youtu.be/qWQ0zfW8c4k>

Majors: Robot Control, Advanced Robotics, Nonlinear Dynamics and Control Systems, Multivariable Control Systems, Linear Programming, Identification and Optimal Control, Design of Control Systems, Real-time Systems, Electromagnetic Fields, Numerical Modeling of Electromagnetic Fields

March 2011

Bachelor's Degree in Automation Engineering from University of Naples "Federico II"

Title: "Use of an iPhone as a Teach Pendant for a Robotic Manipulator"

Advisor, Co-advisor: Vincenzo Lippiello, Fabio Ruggiero

Keypoints:

- Implementation of an iPhone app (written in Objective-C) that reads the iPhone's sensor measures
- Analysis of the sensor data in Matlab/Simulink to generate a reference for the robot's real-world pose
- Use of UDP sockets for inter-process communication between iPhone, computer and COMAU Smart Six Robotic Manipulator

Final vote: 100/110

Demo video: <http://youtu.be/051uCCt-br0>

Majors: Automation, Dynamic Systems Theory, Automatic Controls, Digital Controls, Programming, Analog and Digital Electronics

Technical skills, competences and lab experience

Programming languages

OS(es)

Software

Hardware platforms/microcontrollers

Development environments and frameworks

C, C++, Objective-C, Java

Mac OS X, GNU/Linux, Windows

Matlab/Simulink, MatCont, Solid Edge

NXP Mbed, Arduino, Ardupilot Mega, Optitrack, Asctec Pelican by Ascending Technologies

ROS, TooN, Eigen, Boost, Libusb, CMake, Git, Bitbucket, RTAI, Latex, CANopen protocol

Lab experience

- Position, speed and torque control system of a DC motor on a NXP Mbed microcontroller
- Development of a synchronous communication protocol based on USB bulk transfers
- Software interface for the control of a 5 degrees of freedom robotic arm (online generation of control signals, linear and circular trajectory elements, closed-loop inverse kinematics)
- Design and implementation of kinematic and dynamic control systems for a robotic manipulator
- Design and implementation of a ground station communicating with a UAV using the MAVLink protocol (<http://qgroundcontrol.org/mavlink/start>)
- Dynamic Identification of a Schunk Powerball Lightweight Arm LWA 4.6
- Gait planning for a quadruped robot in inclined terrain
- Design of a dynamically stable static gait for a quadruped robot

Software Project(s)

Robotics Toolbox

DAMA^{ROB}: DArio and MArco's ROBotics toolbox, a toolbox written for Matlab/Simulink.

Key features:

- Virtual Reality model of a robotic manipulator, given its Denavit-Hartenberg parameters
- Symbolic-form kinematic and dynamic model of a robotic manipulator
- Trajectories interpolated between a set of given points in Cartesian space
- Simulation of Closed-Loop Inverse Kinematics and control algorithms

Demo video: <http://youtu.be/cEz34ItrCEs>

Website: <http://www.damarob.altervista.org>

Locomotion Controller

A control framework for a quadruped legged robot, developed by C. Gehring, P. Fankhauser, C. D. Bellicoso and S. Coros.

Reference website: <http://leggedrobotics.ethz.ch>

Artistic skills and work experiences

March-April 2010

2009-2011

European promotional tour with *Winter of Life* in Austria, Germany, Sweden, UK and Hungary

Recording contract with Casket Music (publisher) and Warner/Chappell (editor) for the worldwide distribution of an original full-length musical album

2005-Present

Lead guitarist and backing vocals at *Winter of Life* (<https://www.facebook.com/winteroflife>)

2005-2009

Teacher of private electric and classical guitar lessons

Spoken languages

Mother tongue(s)

Other language(s)

Self-assessment

European level^(*)

English

Italian

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user

^(*)Common European Framework of Reference (CEF) level

Additional information

Driving licence(s)

B (cars)

Former residency

1987-89: Sydney, Australia

1990-94: Singapore