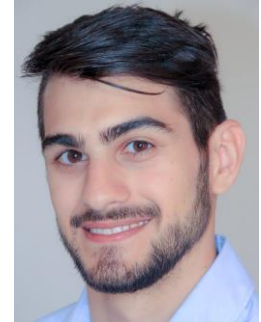


SIMONE COMARI

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Date of birth: **22/10/1991**
Nationality: **Italian**

Personal Profile

My strong will to become an engineer followed me through all over my bachelor studies where I gained a strong background in industrial automation and shaped my desire to continue my university career and specialize in *control theory*, an important branch of robotics. After an enriching exchange program in Shanghai, which helped me to adapt to a set of different, unusual situations and broaden my horizon, I decided to enroll at ETHZ and pursue my master studies abroad as well. During the two years spent in such stimulating environment I have considerably improved my attitude towards tough problems and situations, proving to withstand hard times with a focused mind and positive spirit. Moreover, getting in touch with a great deal of brilliant people made me humbler and, at the same time, more curious and ambitious. My first experiences in the business world were also great opportunities to work on my team cooperation skills as well as to contribute to challenging projects and cutting-edge technologies development. Before moving on towards new industry-oriented jobs, I decided to move back to the origins and explore the academic field, even if from a more practical point of view, in order to gain more perspective on new matters and stay up-to-date with the current state of the art.

Education

Sept. 2013 – Feb. 2016 **EIDGENÖSSISCHE TECHNISCHE HOCHSCHULE (ETH) – ZÜRICH, SWITZERLAND**
MSC in “*Robotics, Systems and Control*”. Tutor: Dr. Prof. [Raffaello D’Andrea](#). GPA: **5.44/6**.

Classes at ETH

- *Dynamic Programming and Optimal Control* – Prof. D’Andrea,
- *Linear System Theory* – Prof. Lygeros,
- *System Identification* – Prof. Smith,
- *Unmanned Aerial Systems* – Prof. Siegart,
- *Robotics Programming Laboratory* – Prof. Meyer,
- *Decision Theory* – Prof. Murphy,
- *Control Systems II* – Prof. Smith,
- *Recursive Estimation* – Prof. D’Andrea,
- *Advanced Topics in Control* – Prof. Smith,
- *Non-linear Systems & Control* – Prof. Gallestey, Alvarez,
- *Model Predictive Control* – Prof. Morari,
- *Autonomous Mobile Robots* – Prof. Siegart,
- *Embedded Control Systems* – Prof. Freudenberg.

Projects at ETH

- *Robust DV Control of a distillation column,*
- **Sem. Th.:** *Parametric System Identification for an Autonomous Sailing Boat,*
- **Master Th.:** *Modeling and Full-body Control of Aerial Delta Manipulator.*

Aug. 2012 - July 2013 **ALMA MATER STUDIORUM, UNIVERSITY OF BOLOGNA – ITALY**
BSc in “*Automation Engineering*” (3rd year, in English) with bachelor thesis in:
“*Control of MIMO systems using decoupling techniques – A binary distillation column*”.
Final grade: **110/110 with honors**.

Sept. 2011 - June 2012 **TONGJI UNIVERSITY (同济大学) – SHANGHAI, CHINA**
Scholarship winner for the enrollment in [ALMATONG](#) project, English-taught curriculum for Italian-Chinese double-degree program in “*Automation Engineering*” (2nd year, in English).

Sept. 2010 - Aug. 2011 **ALMA MATER STUDIORUM, UNIVERSITY OF BOLOGNA – ITALY**
Beginning of BSc in “*Ingegneria dell’automazione*” (*Automation Engineering*) (1st year, in Italian).

Sept. 2005 - July 2010 **E. FERMI PUBLIC HIGH SCHOOL – BOLOGNA, ITALY**
Scientific curriculum with special focus on Math, Physics and Computer Science. Final grade: **100/100**.

Publications

Co-Authored Article: Mina Kamel, Simone Comari and Roland Siegwart, “Full-Body Multi-Objective Controller for Aerial Manipulation”, *24th Mediterranean Conference on Control and Automation*, Athens, Greece.

Working Experience

Sept. 2014 – Feb. 2015 *ALSTOM Inspection Robotics Ltd* – Technoparkstrasse 1, CH-8005 Zürich (Switzerland).
Internship – Software developer trainee.

I collaborated in the creation of a camera based control algorithm, from feature detection and recognition to trajectory tracking. Moreover, I also worked in the development of an EKF based SLAM process for inspection robots for the European [PETROBOT](#) project.

Jul. 2016 – Feb. 2018 *GoPro Switzerland AG* – Räfelstrasse 28, CH-8045 Zürich (Switzerland).
Full-time – Associate Development Engineer.

As software developer, I took part in creating on-board applications as well as simulation, testing and evaluation frameworks for *aerial products*. My major contribution consisted in computer-vision-based subject tracking applications, starting from design and prototyping to the final implementation on the actual embedded platform.

Jul. 2018 – Present *Alma Mater Studiorum, University of Bologna, Dipartimento di Ingegneria Industriale* – Viale del Risorgimento 2, 40132 Bologna (Italy).
Full-time – Research Fellow.

The objective of my research mainly consists in the practical integration of a computer vision system into a specific under-actuated and under-constrained cable-driven parallel robot. Besides that, I collaborate in the improvement of the software architecture and in the development of simple robotics project for educational purposes.

Language Skills

Italian: Native language

English: Professional, very good knowledge of the technical language. IELTS Certification 7.5/9, C1 level (July 2013)

Chinese: Basic level (A1.2)

German: Basic level (A1.2)

Computer Skills

Scale: beginner (1), intermediate (2), good (3)

O.S.:

- Windows XP/Vista/7/8/8.1 (3)
- Ubuntu Linux 14.04/16.04 (3)
- macOS 10.10+ (2)
- ROS (Robot Operating System) (3)

Programming Languages:

- Python (3)
- C/C++ (2/3)
- MATLAB (& Simulink) (2/3)
- bash (2)
- IEC 61131-3 (SFC, FBD, ST, LD) (2)
- Eiffel (1)
- Dev/Turbo Pascal (1)

Office Software:

- MS Office (2)
- Open Office (2)
- LaTeX (2)

Professional Software/Services:

- GitHub (2)
- Jira (3)
- RViz (1)
- Gazebo (2)
- Qt/rqt (3)
- Solid Edge v20 (1)
- Solid Works (1)
- CoDeSyS (2)

Licenses

Driving License:

- A (any kind of motorbike)
- B (any kind of car)

ECDL: - *European Computer Driving License*, also known as *International Computer Driving License (ICDL)*, a computer literacy certification programme provided by *ECDL Foundation*.

Interests and Extra-Curricular Activities

- **Sports:** ultimate frisbee, skiing, basketball, judo, swimming.
- **Hobbies:** cinema, especially art one, music and concerts, hiking and motor biking.
- Member of *Events Committee* at *GoPro Switzerland AG*.
- Private Mathematics and Physics tutor for middle/high school students.
- Volunteer at Zürich Open Air Festival 2015, Caritas (12-2016), ProNatura (11-2017), SiMaBo dog shelter (05-2018)
- I love traveling and experiencing new cultures. 33 visited countries: Hong Kong, China, Philippines, Macau, Thailand, Cambodia, Vietnam, Japan, Morocco, Cape Verde, Spain, Germany, UK, and many others European countries.