Giacomo Picardi

WORK EXPERIENCE

October 2016 - present

PhD Candidates at the BioRobotics Institute

Scuola Superiore Sant'Anna, Pisa

Research Centre on Sea Technologies and Marine Robotics

EDUCATION AND TRAINING

September 2013 - April 2016

M.Sc. in Automation and Robotic Engineering, 110/110 L

University of Pisa

- Mathematical modelling skills (System and Control theory, Optimization methods, Probability theory, Robotics, System Identification).
- Mechanics applied to Robots and Vehicles.
- Theoretical and Practical skills in Process Control, Digital Control, Robust Control and Distributed Control)
- Fields of application: Industrial Automation, Robotics, Underwater system, Biological Cybernetics

October 2010 – December 2013

B.Sc. in Computer Engineering, 110/110 L

University of Pisa

- Solid basis of Mathematics and Physics: Analysis, Linear Algebra, Calculus, Optimization methods, General Physics, Electronic and Electrotecnics.
- Coding skill and experience in C, C++, C#, Java, Html,JavaScript, MySQL, Python, Matlab, Simulink
- Knowledge of Operating Systems, Computer Architecture and Computer Networks.

EXPERIENCES ABROAD

September 2015 – March 2016

Max Planck Institute for Biological Cybernetics, Department of Human Perception, Cognition and Action, Tubingen.
I worked on my Master thesis to an application of Adaptive Control to an Identified Helicopter Model in Hover.
The design and results are described in the publication reported in the relative section of this CV.

September 2012 – June 2013

University College of London, Computer Science.
I attended the third year of my Bachelor degree. I successfully completed the following exams: Operating Systems, Networked Systems, Computer Graphics, Neural Networks and Artificial Intelligence, Software Engineering. I was involved in a team project named Pasteur2. More details on Pasteur2 in the section Projects.

PROJECTS

BLUE RESOLUTION project
June 2018 – June 2021

The aim of the project is the design and development of a teleoperated underwater legged robot for sampling of micro- and meso-plastics litter on the bottom of the sea. The first part of the project (currently active) is focused on the design, implementation and testing of the robot. The second part (from June 2019 onwards) will be focused on cleaning specific areas of the Mediterranean sea.
The project is funded by Dario ARBI Spa and leaded by Dr. Marcello Calisti.
I am responsible for the overall control of the robot, including locomotion, sampling, data acquisition and user interface. Moreover I am involved in the design and will take part in the cleaning and sampling activities.

https://www.blueresolution.it/

SILVER project
July 2017 – November 2017

The aim of the project was the design and development of an underwater legged robot for benthic exploration and its deployment in a proof-of-concept mission to explore the wreckship of Elviscot in Elba Island.
The project was funded by an Early Career Grant from National Geographic awarded to my PhD tutor Marcello Calisti.
I was responsible for the control of the robot and the graphic user interface, and participated in the mission.

PASTEUR2 project
November 2012 – March 2013

The aim of the project was to design a low cost training platform for laparoscopic Surgery using .NetGadgeteer platform from Microsoft.
The project was commissioned by Dr. Shabnam Parker from the Chelsea and Westminster Hospital of London and supervised by Prof. Dean Mohamedally from University College of London.
I was responsible for the full design of a training experiment and the implementation of a web server to save and store the exercise score.

ADDITIONAL INFORMATION

Publications

- G. Picardi, S.Geluardi, M. Olivari, L. Pollini, M. Innocenti, H.H. Bülthoff, L1-based Model Following Control of an Identified Helicopter Model in Hover, AHS 72st Annual Forum, Palm Beach, Florida, May 16–19, 2016.
- Calisti, M.; Picardi, G.; Laschi, C. Fundamentals of soft robot locomotion Journal of the Royal Society Interface, Vol. 14, N. 1, 2017
- Iacoponi, Saverio, et al. "Underwater soft jet propulsion based on a hoberman mechanism." 2018 IEEE International Conference on Soft Robotics (RoboSoft). IEEE, 2018.
- Picardi, Giacomo, Cecilia Laschi, and Marcello Calisti. "Model-based open loop control of a multigait legged underwater robot." Mechatronics 55 (2018): 162-170.

Conferences

- MTS/IEEE Oceans'15 Genova Conference, May 18-21,2015
- 2018 IEEE International Conference on Soft Robotics (RoboSoft)