

Chiara ERCOLANI

Electrical Engineer passionate about Robotics, Machine Learning and Embedded Systems

EDUCATION

- EXP. 2022 **Doctor of Philosophy in ROBOTICS, CONTROL AND INTELLIGENT SYSTEMS**
Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland
- APR 2018 **Master of Science in ELECTRICAL AND ELECTRONIC ENGINEERING**
Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland
Specialization: Digital Electronics and Computer Engineering
Thesis: "Machine learning on SUPERball: a next generation NASA tensegrity rover" | Advisor: Prof. Auke IJSPEERT
- Experience in Embedded Systems: Microcontrollers, FPGA, Real Time Systems
 - Experience in Machine Learning and Neural Networks
 - Experience in Digital Design and Hardware Development
 - Participant and winner of the Interdisciplinary Robot Competition 2016
 - Semester Project: "Design of digital electronics for portable 3D ultrasound imaging"
- JUL 2015 **Bachelor Degree in BIOMEDICAL ENGINEERING**
Politecnico di Milano, Milan, Italy
Thesis: "Educative Robotics for Autism" | Advisor: Dr. Marco D. SANTAMBROGIO
- JUN 2012 **High School Diploma**
Liceo Scientifico Vittorio Veneto, Milano, Italy
- JUN 2011 **AFS year abroad**
AUG 2010 **Riverside Brookfield High School, Riverside, Illinois, USA**

WORK EXPERIENCE

- PRESENT **Graduate Researcher**
JUL 2018 *Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland*
- MAR 2018 **Intern / Visiting Student**
SEP 2017 *NASA Ames Research Center, Mountain View, California, USA*
- Implemented novel machine learning based algorithms to control SUPERball, a compliant cable-driven tensegrity robot developed by the Intelligent Robotics Group (IRG)
 - Developed a robot locomotion optimization tool using TensorFlow, Python, and a Matlab physics-based simulation of the robot
 - Developed a novel method to estimate cable tensions in SUPERball using Neural Networks and motor torque data
- AUG 2017 **R&D Intern**
FEB 2017 *ABB, Baden, Switzerland*
- Worked on Embedded Systems for Ethernet Teleprotection
 - Developed embedded software using Petalinux
 - Developed SoC FPGA Systems with Vivado
- FALL 2016 **Teaching Assistant in Embedded Systems**
Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland

COMPUTER SKILLS

Advanced Knowledge: C, C++, PYTHON, MATLAB, ROS, WEBOTS, VHDL, \LaTeX , GIT
Intermediate Knowledge: R, Adobe Illustrator
Basic Knowledge: Java
Operating Systems: Mac OS X, Linux, Windows

PUBLICATIONS

1. **Chiara Ercolani** and Alcherio Martinoli. 3D odor source localization using a micro aerial vehicle: System design and performance evaluation. In *2020 IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 6194–6200, 2020
2. Massimo Vespignani, **Chiara Ercolani**, Jeffrey M Friesen, and Jonathan Bruce. Steerable locomotion controller for six-strut icosahedral tensegrity robots. In *2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pages 2886–2892. IEEE, 2018

SCHOLARSHIPS AND CERTIFICATES

Nov 2017 “Neural Networks and Deep Learning” Course Certificate from Coursera
OCT 2017 Zeno Karl Schindler Foundation Master Thesis Grant
2013/2014 Excellence Scholarship for outstanding grades
DEC 2011 Certificate of Advanced English CAE - A level

VOLUNTEERING EXPERIENCE

SPRING 2017 **Queermigs**
Organizer of events for international LGBT people in the Zurich Area
2014-2015 **Arcigay Milano - Gruppo Donna**
Coordinator of the women group in Milano’s biggest LGBT association
2012-2015 **Arcigay Milano**
Volunteering experience in the association’s youth group and in the women group
2014-2017 **Liceo Scientifico Vittorio Veneto**
Advisor for high school students

LANGUAGES

ITALIAN: Mother tongue
ENGLISH: Fluent
FRENCH: Intermediate Knowledge
GERMAN: Basic Knowledge

INTERESTS AND ACTIVITIES

Hackaton enthusiast, social dances lover, piano and guitar player, runner.