Alessandro Carfì

RESEARCH INTERESTS

In my last year of the Master I have developed an interest toward research in the human robot interaction (HRI) field that led me to apply for a PhD position in Genoa, Italy. Currently my research is focused in applying machine learning techniques to improve HRI in different contexts. I have designed and developed a system based on Recurrent Neural Networks for gesture recognition and tested both in an Ambient Assisted Living application and in a cooperative manufacturing context. In this second scenario I have studied kinesthetic teaching and started exploring possible approaches to increase its efficacy. I am eager to share and discuss ideas for explanding and applying the practical knowledge I have acquired onto new and different fields.

POSITIONS

2019-present **Postdoctoral Researcher**
Università degli Studi di Genova

EDUCATION

2016-2019 **Università degli Studi di Genova**
PHD, Bioengineering and Robotics

Supervisor Fulvio Mastrogiovanni

Key words Programming by Demonstration, Kinesthetic Teaching, Gesture Recognition, Human Robot Interaction, Recurrent Neural Networks

Expected Defence Date March 2020

2014-2016 **Ecole Centrale de Nantes - Università degli Studi di Genova**
Master Degree in Robotics Engineering, European Master on Advanced RObotics, EMARO

Description EMARO is a double degree master program conducted by Ecole Centrale de Nantes (France), Warsaw University of Technology (Poland), the University of Genoa (Italy) and Jaume I University (Spain). The master program is characterized by lectures on Mathematical Modeling, Control Engineering, Computer Engineering and Mechanical Design. (master-emaro.ec-nantes.fr)

Thesis

Title:
A study of Human-Robot handover and influence of item physical quality.

Supervisors:
Fulvio Mastrogiovanni and Nak Young Chong.

Collaboration:
The thesis was held in collaboration with the Japan Advanced Insitute of Sicence and Technology (Ishikawa, Japan) where I have spent 5 months.

Group Project

Title:
Evaluation of the simulator V-REP for multi mobile robot control.

Supervisors:
Gaëtan Garcia and Philippe Martinet.

2011-2014 **Università degli Studi di Genova**
Bachelor Degree in Computer Engineering

Thesis Title Development of an Android application for geotracking,

Supervisor Armando Tachella

COMPUTING AND OTHER SKILLS

Applications: Matlab, Office, LaTeX.
Programming Languages: Python, C++, C, Java, HTML.
Operating Systems: Windows, Unix.
Languages: Good English level, Italian mother tongue and speak basic conversational French.

TEACHING

2019 - present **Computer Programming Basics** - Lecturer
(BSc in Chemical Engineering - University of Genoa)

2016 - present **Computer Programming Basics** - Teaching Assistant
(BSc in Computer Engineering - University of Genoa)

2018 - 2019 **Embedded Systems Programming** - Teaching Assistant
(MSc in Mechatronics Engineering - University Campus G. Marconi)

2018 - 2019 **Embedded System Programming** - Lecturer
(European Master on Advanced Robotics - Warsaw University of Technology)

PUBLICATIONS

J. Villalobos, E. Coronado, A. Carfì, B. Bruno e F. Mastrogiovanni, "**Is Kinesthetic Teaching What Smart Factories Really Need?**" in 4th Italian Workshop on Artificial Intelligence and Robotics (AIRO 2017), Bari, Italy, November, 2017.

A. Carfì, C. Motolese, B. Bruno e F. Mastrogiovanni, "**Online Human Gesture Recognition using Recurrent Neural Networks and Wearable Sensors**" in Proceeding of the 2018 IEEE International Conference on Robot and Human Interactive Communication (RO-MAN 2018), Nanjing, China, August, 2018.

A. Carfì, F. Foglino, B. Bruno e F. Mastrogiovanni, "**A multi-sensor dataset of human-human handover**" Data in Brief, 2018.

L. Buoncompagni, A. Carfì e F. Mastrogiovanni, "**A Software Architecture for Multimodal Semantic Perception Fusion**" in 5th Italian Workshop on Artificial Intelligence and Robotics (AIRO 2018), Trento, Italy, November, 2018. .

A. Carfì, J. Villalobos, E. Coronado, B. Bruno e Fulvio, "**Can human-inspired learning behaviour facilitate human-robot interaction?**" International Journal of Social Robotics, 2018.

REFERENCES I am happy to supply these on request