

Alessandro Carfi

.31

Contacts

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 expanding and applying the practical knowledge I have acquired onto new and different fields.

EXPERIENCE

2016-present **Università degli Studi di Genova**
Postdoctoral Researcher

Project InDex: Robot In-hand Dexterous manipulation by extracting data from human manipulation of objects to improve robotic autonomy and dexterity.

Supervisor Fulvio Mastrogiovanni

TEACHING

2019 - present **Computer Programming Basics - Lecturer**
(BSc in Chemical Engineering - Università degli Studi di Genova)

2020 - present **Computer Programming Basics - Lecturer**
(BSc in Mechanical Engineering - Università degli Studi di Genova)

2016 - 2019 **Computer Programming Basics - Teaching Assistant**
(BSc in Computer Engineering - Università degli Studi di Genova)

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)

EDUCATION

2016-2020 **Università degli Studi di Genova**
PHD, Bioengineering and Robotics

Supervisor Fulvio Mastrogiovanni

Thesis Title On the role of gestures in human-robot interaction

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.

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 .

Programing Languages: Python, C++, C, Java, HTML.

Operating Systems: Windows, Unix.

Languages: Good English level, Italian mother tongue and speak basic conversational French.

PUBLICATIONS

- L. Lastrico, A. Carfi, A. Vignolo, A. Sciutti, F. Mastrogiovanni and F. Rea "**Careful with That! Observation of Human Movements to Estimate Objects Properties**" 13th International Workshop Human-Friendly Robotics, 2020
- M. Ruzzon, A. Carfi, T. Ishikawa, F. Mastrogiovanni and T. Murakami "**A multi-sensory dataset for the activities of daily living**" Data in Brief, 2020.
- A. Carfi, J. Villalobos, E. Coronado, B. Bruno and F. Mastrogiovanni, "**Can human-inspired learning behaviour facilitate human-robot interaction?**" International Journal of Social Robotics, 2018.
- A. Carfi, F. Foglino, B. Bruno and F. Mastrogiovanni, "**A multi-sensor dataset of human-human handover**" Data in Brief, 2018.
- L. Buoncompagni, A. Carfi and 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. Carfi, C. Motolese, B. Bruno and 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.
- J. Villalobos, E. Coronado, A. Carfi, B. Bruno and 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.

REFERENCES

I am happy to supply these on request

