PERSONAL INFORMATION   Vera Colombo

Milan, Italy

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Sex F | Date of birth 18/10/1990 | Nationality Italian

WORK EXPERIENCE

July 2016 – present

Research fellow
Italian National Research Council (CNR) – Institute of Intelligent Industrial Systems and Technologies for Advanced Manufacturing (STIIMA)
Research Group: Enterprise Engineering and Virtual Reality Application (EVA)
Lecco-subsidiary: Smart and Human-centred Living Environment

Main research activities: design, development and validation of Virtual/Augmented Reality solutions and *mobile* applications for personalized rehabilitation both in the clinical and in the domestic environment for patients with chronic respiratory disease, neurologic patients as well as elderly population**.**

Business or sector Research

EDUCATION AND TRAINING

Nov 2017 – present

PhD student – Bioengineering
Politecnico di Milano, Milan (IT)

Research topic: Virtual Reality solutions for improving rehabilitation of patients with chronic respiratory diseases

Attended courses
- Ethics in research
- Scientific communication in English
- Augmented Reality Summer School 2018
- Biostatistics and Experimental Design

Mar 2013 – Dec 2015

Master of Science – Biomedical Engineering, Technologies for Electronics
Politecnico di Milano, Milan (IT)

Master Thesis: Reliability of corticospinal excitability measures derived from Transcranial Magnetic Stimulation on healthy elderly subjects - *Grade*: 103/110

Feb 2014 – July 2014

LLP Erasmus Program
Universidade de Coimbra, Coimbra (PT)

Mestrado Integrado Engenharia Biomedica

Sep 2009 – Feb 2013

Bachelor of Science – Biomedical Engineering
Politecnico di Milano, Milan (IT)

Thesis: Evaluation of reliability and responsivity of instrumental measures of cycling on hemiparetic patients - *Grade*: 88/110

2004 - 2009

Scientific/Bilingual High School Diploma
Liceo E. Majorana, Desio, Monza Brianza (IT)

PERSONAL SKILLS

Mother tongue(s)

Italian

Other language(s)

English – Level C1 (TOEFL iBT 95/120 – Jan 2013)
Portuguese – Level A2
French – Level A1
Spanish – Level A1

Social and communication skills

Ability to cooperate with colleagues and to work as a team gained working at CNR and studying at university; good communication skills with customers gained through my experience as waitress and cashier while studying at university; good contact skills with children acquired as study tutor; confident in communicating in an international environment thanks to my experience abroad.

Job-related skills

▪ Design and development of VR/AR and *mobile* applications

Computer skills

▪ Unity 3D
▪ Matlab
▪ C++/C#
▪ LabView (basic)

RESEARCH PROJECTS

Future Homes for Future Communities (FHfFC)
FHfFC aims at creating "the house of the future" in which dwellers can rely on customized services and solutions aimed at promoting a healthy and active way of living. The project activities grow in two directions: *smart care* – for providing personalized home-based rehabilitation to users with specific needs and *smart living* – focused on comfort, energy efficiency and consumption.

EMPATIA @Lecco – Patient empowerment at home
Empowerment del PAzienTe In cAsa
The project aims at providing the patient and his/her family new solutions for facing the disease, improving ability in managing activities of daily living as well as developing more aware and self-conscious behaviors with the final goal of improving quality of life.

Rientr@ - Virtual environments for supporting return to work after accident
PDT2/1 – Ambienti virtuali per facilitare il rientro al lavoro dopo incidente
The main goal of the Rientr@ project is to design and develop an immersive Virtual Reality-based system for promoting independency in daily-life and fostering return to work of novice wheelchairs users.

SCIENTIFIC PUBLICATIONS

Journals

Arlati, S., Colombo, V., Spoladore, D., Greci, L., Pedroli, E., Serino, S., ... & Gaggioli, A. (2019). A Social Virtual Reality-Based Application for the Physical and Cognitive Training of the Elderly at Home. Sensors, 19(2), 261.

Arlati, S., Colombo, V., Ferrigno, G., Sacchetti, R., & Sacco, M. (2019). Virtual reality-based wheelchair simulators: A scoping review. Assistive Technology, 1-12.

Colautti, L., Baldassini, D., Colombo, V., Mottura, S., Sacco, M., Sozzi, M., ... & Antonietti, A. (2018). CREC: the role of serious games in improving flexibility in thinking in neuropsychological rehabilitation. British Journal of Educational Technology, 49(4), 717-727.

Peri, E., Ambrosini, E., Colombo, V. M., van de Ruit, M., Grey, M. J., Monticone, M., ... & Ferrante, S. (2017). Intra and inter-session reliability of rapid Transcranial Magnetic Stimulation stimulus-response curves of tibialis anterior muscle in healthy older adults. PloS one, 12(9), e0184828.

Ambrosini, E., Ferrante, S., van de Ruit, M., Biguzzi, S., Colombo, V., Monticone, M., ... & Grey, M. J. (2017). StimTrack: An open-source software for manual transcranial magnetic stimulation coil positioning. Journal of Neuroscience Methods.

Conference proceedings

Crepaldi, M., Colombo, V., Baldassini, D., Mottura, S., & Antonietti, A. (2017, December). Supporting Rehabilitation of ADHD Children with Serious Games and Enhancement of Inhibition Mechanisms. In International Conference on Virtual Reality and Augmented Reality (pp. 167-181). Springer, Cham.

Baldassini, D., Colombo, V., Spoladore, D., Sacco, M., & Arlati, S. (2017, September). Customization of domestic environment and physical training supported by virtual reality and semantic technologies: A use-case. In 2017 IEEE 3rd International Forum on Research and Technologies for Society and Industry (RTSI) (pp. 1-6). IEEE.

Colombo, V., Baldassini, D., Mottura, S., Sacco, M., Crepaldi, M., & Antonietti, A. (2017, June). Antonyms: A serious game for enhancing inhibition mechanisms in children with Attention Deficit/Hyperactivity Disorder (ADHD). In Virtual Rehabilitation (ICVR), 2017 International Conference on (pp. 1-2). IEEE.

Baldassini, D., Colombo, V., Mottura, S., Sacco, M., Colautti, L., & Antonietti, A. (2017, June). Design of a ICT-based training system to improve creative thinking in brain-damaged patients. In Virtual Rehabilitation (ICVR), 2017 International Conference on (pp. 1-2). IEEE.

Peri, E., Ambrosini, E., Colombo, V. M., Van De Ruit, M., Grey, M. J., Monticone, M., ... & Ferrante, S. (2017). Intra and inter-session reliability of rapid Transcranial Magnetic Stimulation stimulus-response curves of tibialis anterior muscle in healthy older adults. PloS one, 12(9), e0184828.

Abstract in journal

Arlati, S., Colombo, V., Malosio, M., Mottura, S., Pizzagalli, S., Prini, A., Biffi, E., Genova, C., Reni, G., Sacco, M. A Simulator to Promote the Return to Work of Wheelchair Users. (2019) Technology and Disability, AAATE 2019 – Bologna, Italy.

Awards

CNR-STIIMA Publications' Award (2018) – youngest researcher with (at least) one journal publication

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