

ANTONIO GIOVANNETTI

GENERAL INFORMATIONS

Affiliation: University of Genova

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PRESENT POSITION

Assistant Researcher at Simulation Team, University of Genoa
Adjunct Professor of Engineering for Industrial Sustainability
Adjunct Professor of Operations and Production Management

PROFESSIONAL EXPERIENCES

Assistant Researcher at Simulation Team, University of Genoa, 2020 till now
Adjunct Professor of Strategic Programs in STRATEGOS
Adjunct Professor of Logistics for Management Engineering

EDUCATION AND TRAINING

Degree Course: Biomedical Engineering Master's Degree;

Brief description:

I have chosen the path "electronic bio-engineering" where I studied topics regarding data analysis, applied statistics and neural engineering.

Thanks to these experiences I started to use big data for modeling and simulation of complex system and the creation of predictive models.

Then I decided to use these knowledges to the field of Industrial Engineering in order to optimize the management of the entire production processes in multiple aspects, from line production to the logistic issues. In Genoa University I started to use my personal skills in order to predict Industrial processes, model complex systems, simulate logistic problems thanks to the use of Artificial Intelligence, Modeling and Simulation in closed loop.

Articles and Conference Papers

- "Interoperable Simulation for Space Logistics & Operations for a Moon Base", January 2021, The 20th International Conference on Modeling & Applied Simulation
- Strategic Engineering Applied to Complex Systems with Marine Environment, July 2021, 2021, Annual Modeling and Simulation Conference (ANNSIM)
- "Strategic Engineering for enhancing efficiency and effectiveness of water management systems, September 2022, International Multidisciplinary Modeling & Simulation Multiconference (I3M)

- “Deep-MEG: spatiotemporal CNN features and multiband ensemble classification for predicting the early signs of Alzheimer’s disease with magnetoencephalography”, May 2021, Neural Computing and Applications Journal
- “Improving Efficiency and Safety for Heat Exchangers and Water Piping by Innovative Solutions, September 2021, International Multidisciplinary Modeling & Simulation Multiconference (I3M)
- “Models for strategic decision makers during CBRN crisis in industrial and urban environment”, September 2022, International Multidisciplinary Modeling & Simulation Multiconference (I3M)
- “Evaluation of risk awareness by Simulation and Extended reality in Industrial Plant”, September 2022, International Multidisciplinary Modeling & Simulation Multiconference (I3M)
- “Serious Games, Simulation and IoT/IIoT for improving harbor performance, September 2022, International Multidisciplinary Modeling & Simulation Multiconference (I3M)
- “UGV Digital Twin for garbage detection through AI”, September 2022, International Multidisciplinary Modeling & Simulation Multiconference (I3M)
- A deep CNN-based approach for predicting MCI to AD conversion: Developing topics, December 2020, Alzheimer’s & dementia: the journal of the Alzheimer’s Association
- Sub-dermal battery-less wireless sensor for the automatic monitoring of cattle fever, August 2020, XXXIIIrd General Assembly and Scientific Symposium of the International Union of Radio Science (URSI GASS)

Experiences

- Currently I am enrolled in the Simulation Team coordinated by Professor Agostino Bruzzone based on a Research Grant of Genova University
- I took part in SEE (Simulation Exploration Experience) Project organized by NASA, Johnson Space Center and Kennedy Space Center in relation to ARTEMIS Project for creating a Moonbase. In this framework I cooperated in creation and development of an interoperable federation for Extra Planetary Operations dealing with use of autonomous Systems. During these experiences one of the main topic is model the logistic problem of a Moonbase.
- I took part in a project for improving manufacturing industry through the use of Modeling & Simulation paradigms
- In Simulation Team I collaborated for the development of innovative autonomous system for safety in Industrial Plants, innovative supervision, Autonomous capability Development, Efficiency Improvements.
- I am active in researches on AI (Artificial Intelligence), M&S (Modeling and Simulation), UGV (Unmanned Ground Vehicles) and innovative XR (eXtended Reality) applied to Industrial Plants and Defense. I am participating in NATO MSG-189 Meetings, an AI Augmented Immersive Simulation in Training and Decision Making Course of Actions Analysis, organized by NATO MSG (Modelling and Simulation Group).
- My research is currently focused on Modelling, Simulation and Artificial Intelligence fields, and XR/VR/AR (eXtended, Virtual & Augmented Reality) technologies, in order to contribute to define and create new paradigms with special attention to logistic problems and optimization in Industrial Plant Engineering.
- Speaker at I3M 2021 and 2022 Conference and CA2X2 Forum.

RESEARCH INTERESTS

- Modeling and Simulation
- Operations Management
- Machine Learning & Artificial Intelligence
- Strategic Engineering

COMPUTER KNOWLEDGE

- **Python Language** (Numpy, Scipy, Pandas, ScikitLearn, Keras, PyTorch);
- **Office Pack** (Excel, Word, PowerPoint);
- **Matlab** ;
- **Unity** (C #);
- **Blender**
- **Java**
- **Arduino** (basic skills);
- **Solidworks** ;
- **FEKO** (basic skills);

LANGUAGES

- **English**
- **Italian**