SILVIA COLABIANCHI
Curriculum Vitae

Part I – Education

Type	Year	Institution	Notes (Degree, Experience,…)
PhD	2023	Department of Mechanical and Aerospace Engineering, University of Rome La Sapienza, Italy	PhD in Industrial and Management Engineering
			Full-Time Fellowship
			Thesis defended: "Humans in cyber resilience: managerial and operational opportunities"
			Final Evaluation: Excellent with honor
Advanced Training Course	2021	University of Rome La Sapienza, Italy	Advanced Training Course in Project Program Portfolio Management
Post-graduate studies (Master)	2019	University of Rome La Sapienza, Italy	MSc in Management Engineering . Focus on Management of Industrial and Production Systems
			Erasmus+ Programme (01-07/2018) at Technische Universiteit Delft – TUDelft, Netherlands
			Final Work: "Predicting student dropout using a machine learning approach".
			Final Grade: 110/110 Cum Lode
University graduation (Bachelor)	2017	University of Rome La Sapienza, Italy	BSc in Management Engineering
			Final Grade: 104/110
High School Diploma	2013	Liceo Scientifico PNI Farnesina, Roma, Italy	High school scientific diploma with a focus on mathematics and computer science.
			World Exchange Program (2011) at Northern Bay College, Geelong, Australia

Part II – Appointments

IIA – Academic Appointments

Start	End	Institution	Position
01/04	Ongoing	Department of Computer, Control and Management Engineering "Antonio Ruberti", University of Rome La Sapienza, Italy	Research Fellow

IIB – Industrial Appointments

Start	End	Institution	Position
02/2017	07/2017	Technis Blu – Infordata Group	SAP junior consultant – MM – Material Management

IIC – Other Appointments

Start	End	Position
01/2023	Ongoing	Conference track organizer for the International Forum on Knowledge Asset Dynamics (IFKAD 2023): Managing knowledge for sustainability– Track title: Digital Transformation and Organizational Resilience: Managing Knowledge to Nurture Capabilities - Matera, Italy, June 7-9 2023
2022	Ongoing	Reviewer for Cogent Engineering Journal (Taylor & Francis)
2022	Ongoing	Reviewer for IEEE Access
2022	2022	Conference chair for the 5th European Conference on Industrial Engineering & Operations Management – IEOM Society - Rome, Italy, July 26-28 2022
2022	2022	Conference track organizer for the XXXIII AiIG Scientific Meeting: Redesigning networks and supply chains in times of transition – Track title: Organizations in times of digital transformation: from digitalization capabilities to resilience - Rome, Italy, October 20-21 2022

Part III – Teaching experience

Start	End	Institution	Lecture/Course
2020	Ongoing	Department of Computer, Control and Management Engineering, University of Rome La Sapienza, Italy	Assistant lecturer for the courses “Industrial Plants”, and “Smart Factory” for the Bachelor’s Degree and MSc in Management Engineering
2020	2023	Department of Computer, Control and Management Engineering, University of Rome La Sapienza, Italy	Tutoring grant for teaching and tutoring activities for Business Management Course (“Gestione Aziendale”) (12CFU) for the Bachelor’s Degree in Management Engineering
2022	2022	Istituto Nazionale per l'Assicurazione contro gli Infortuni sul Lavoro (INAIL)	Lecturer at the Advanced Training Course "Technologies, Organizations, individuals and behaviors in the fourth industrial revolution for the purposes of health and safety at work"
2022	2022	Sapienza University of Rome & Istituto Nazionale per l'Assicurazione contro gli Infortuni sul Lavoro (INAIL)	Lecturer at the Second Level Master's Degree "Integrated Health and Safety Management in the Evolving World of Work"

Part IV - Society memberships, Awards and Honors

Year	Title
2022	Digital Intelligent Assistant Taskforce Member - COgnitive Assisted agile manufacturing for a Labor force supported by trustworthy Artificial Intelligence (COALA). Horizon 2020 Research and Innovation Programme under grant agreement no. 957296
2021	BonsAPPs Open Call for AI talents EU-funded H2020 project - Winner of the call dedicated to 30 European AI Talents. - Name of the project: AROMA - App for zeRO defects in Manufacturing
2021	Outstanding Student Leadership Award, The Fourth European Conference on Industrial Engineering and Operations Management, Sapienza University Of Rome
2020	Academic grant "Avvio alla Ricerca 2020", awarded to the best PhD research projects at Sapienza University of Rome. Name of the project: "a simulation-based analysis of the impact of a cyber disruption in a supply chain system." (€ 1000).
2019	Three-year full-time fellowship for the PhD in "Industrial and Management Engineering", Sapienza University of Rome.

Part V - Participation in research projects

Start	End	Title	Activity Details
Funded (Start: 05/2023)		Project "FEREO - Formazione e Resilience Engineering Organizzativa con le nuove tecnologie abilitanti."- Resecarci project funded by INAIL-BRIC-ID63	The project includes experimentation to assess the organizational resilience of 4.0 manufacturing processes and virtual reality solutions for worker health and safety training in contexts of human interaction with new enabling technologies (e.g. Cobot).
2022	Ongoing	Project "Digital Intelligent Assistants in manufacturing	Research on architectures and characteristics of digital intelligent assistants (DIAs) in manufacturing. Development of a DIA to assist operators in the learning phase and in alienating operations.
01/2022	Ongoing	Project "Predictive maintenance for rotary machines" – Funded by ABB	Analysis of the failures and development of a machine learning model to predict the deterioration of rotary machines.
11/2019	12/2022	Project "Humans in cyber resilience: managerial and operational opportunities" – Funded by Progetto Di Eccellenza 2018-2022 Del Dipartimento Di Ingegneria Informatica Automatica E Gestionale Antonio Ruberti	As part of the project of excellence on cybersecurity, research was carried out to underline underlined humans' role in cyber socio-technical systems, investigating in which part humans are a threat or an opportunity for cyber resilience.
05/2021	05/2022	Project "Automatic visual inspection of surface defects for ABB products"	Development of a tool that automatically identifies surface defects on objects in a production line through a line scan camera in order to reduce scraps and reworks.
02/2021	12/2021	Project "Preliminary analysis for the realization of an automatic warehouse of a logistic network." – Funded by Conad & Università	The project aimed to propose and evaluate, from a technical-economic point of view, alternative technological solutions for the introduction of automatic storage, picking,

		Telematica Internazionale Uninettuno	and handling systems in a large-scale distribution warehouse.
01/2021	04/2021	Project “Artificial Intelligence for culture heritage”	Development of a system that allows the comparison of images and identifies any damage, changes in color, and surface condition aimed at restoration.
11/2019	03/2020	Project “PowerBI Dashboard” – Funded by Agic Innovation & IOM-International Organization for Migration	Development of a tool that automatically identifies diaspora associations by cross-referencing data publicly available on the Internet through a practice of social media listening and data analysis through machine learning techniques. All data collected and processed have been reported developing a PowerBI dashboard.
01/2020	02/2020	Project “Support in the development of a tool to automatically compare images and measure their similarity.”	Development of a tool able to detect and compute key points on multiple images, compare them, extract matching features, and quantify the degree of similarity between two images.

Part VI – Research Activities

Keywords	Brief Description
Industry 4.0 Industry 5.0 Training 4.0 Smart Factory Production & Logistics Computer Vision Natural Language Processing Conversational Agent Digital Intelligent Assistant Defect identification Sustainability Defects	The main research activities conducted concern the topic of humans in cyber socio-technical systems and the risks and benefits of human-computer interaction by studying the concepts characterizing the Industry 4.0 and Industry 5.0 paradigms. Specifically, one of the lines of research investigates where humans are a threat or an opportunity for cyber resilience. Specifically, the research aims to identify new managerial and operational opportunities to enhance the positive role of humans in increasing the cyber resilience of the socio-technical cyber systems in which organizations operate today. Another research topic concerns the development of innovative technological solutions aimed at improving the relationship between man and machine by focusing on environmental and social sustainability issues. The research includes: - the development of a tool to automatically compare images of similar products and measure their similarity; -a model for the automatic detection of personal protective equipment using deep neural network techniques to increase the safety of the operators. - the development of a vision-based automatic quality inspection tool to detect defects on plastic surfaces using a line-scanning camera to enhance the goals of 3Rs (Reuse, Reduce, Recycle) and Circular Economy; - the implementation of a digital intelligent assistant to help operators in the smart factory by supporting them in alienating and repetitive operations, preserving the human factor of creativity and critical thinking; -the development of virtual reality solutions for worker health and safety training in contexts of human interaction with new enabling technologies (e.g. Cobots).

Part VII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	10	Scopus	2020	2023

Total Impact factor*	2.75
Total Citations	22
Average Citations per Product	2.2
Hirsch (H) index	3
Normalized H index**	1

***** *L'IF totale è stato calcolato considerando le citazioni all'anno 2023 e gli articoli pubblicati nel 2022 e 2021*
******H index divided by the academic seniority.

Part VIII– Scientific Publications

International Journal

- Bernabei, M., Colabianchi, S., & Costantino, F. (2022). *Actions and strategies for coronavirus to ensure supply chain resilience: A systemic review*. Sustainability (Switzerland), 14(20) doi: 10.3390/su142013243, *IF 3.889*

- Quatrini, E., Colabianchi, S., Costantino, F., & Tronci, M. (2022). *Clustering application for condition-based maintenance in time-varying processes: A review using latent Dirichlet allocation*. Applied Sciences (Switzerland), 12(2) doi:10.3390/app12020814, *IF 2.838, Citations: 4*

- Colabianchi, S., Costantino, F., Di Gravio, G., Nonino, F., & Patriarca, R. (2021). *Discussing resilience in the context of cyber physical systems.* Computers & Industrial Engineering, 160 doi: 10.1016/j.cie.2021.107534, *IF 7.18, Citations: 12*

Conference proceedings

- Colabianchi, S., Bernabei, M., & Costantino, F. (2022). *Chatbot for training and assisting operators in inspecting containers in seaports*. Transportation Research Procedia, 64, 6-13., *Citations: 1*

- Bernabei, M., Colabianchi, S., & Costantino, F. (2022). Natural language processing applications in manufacturing: A systematic literature review. Paper presented at the Proceedings of the Summer School Francesco Turco

- Falegnami, A., Bernabei, M., Colabianchi, S., & Tronci, M. (2022). Yet another warehouse KPI's collection. Paper presented at the Proceedings of the Summer School Francesco Turco

- Bernabei M., Colabianchi S., Costantino F., Falegnami A, (2022). Warehouse resilience framework for the Covid-19 disruption, Paper presented at the International Working Seminar on Production Economics 2022

- Bernabei M., Colabianchi S., Costantino F., Patriarca R. (2021). Using Natural Language Processing to uncover main topics in defect recognition literature, Paper presented at the Proceedings of the Summer School Francesco Turco, *Citations: 1*

- Annarelli A., Colabianchi S., Nonino F., Palombi G. (2022) The Effectiveness of Outsourcing Cybersecurity Practices: A Study of the Italian Context. In: Arai K. (eds) Proceedings of the Future Technologies Conference (FTC) 2021, Volume 3. FTC 2021. Lecture Notes in Networks and Systems, vol 360. Springer, Cham. https://doi.org/10.1007/978-3-030-89912-7_2, *Citations: 4*

- Colabianchi, S., Costantino, F., Genito, C., Iannucci, M., & Quatrini, E. (2020). A predictive maintenance model for an industrial fan in a cement plant. Paper presented at the Proceedings of the Summer School Francesco Turco

- Quatrini, E., Colabianchi, S., Costantino, F., & Tronci, M. (2020). Machine learning models to predict components decay in a naval propulsion system. Paper presented at the Proceedings of the Summer School Francesco Turco

Rome, 5th April 2023

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