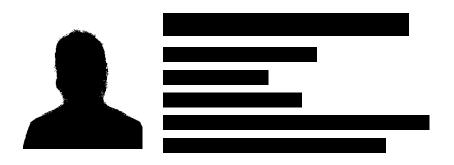# CURRICULUM VITAE

per la destinazione "ai fini della pubblicazione" in ottemperanza al D. Lgs. 33/2013

RESEARCH ACTIVITIES

11/2021 - Today   **PhD Student** in Industrial and Management Engineering, at Sapienza University of Rome, Faculty of Civil and Industrial Engineering, Department of Mechanical and Aerospace Engineering.

07/2021 - 09/2021   **Research Assistant,** at Sapienza University of Rome, Faculty of Civil and Industrial Engineering, Department of Mechanical and Aerospace Engineering.

EDUCATION

2018 - 2020   **MSc in Mechanical Engineering – Industrial Production** (110/110) at Sapienza University of Rome (Italy).

2014 - 2017   **BSc in Mechanical Engineering** (92/110) at Sapienza University of Rome (Italy).

TEACHING ACTIVITIES

11/2021 - Today   **Teaching assistant** at Sapienza University of Rome (Italy), for the "Operations Management", "Industrial Plants", and "Quality Management" courses at the Faculty of Civil and Industrial Engineering for the MSc and BSc in Mechanical Engineering; for the "Operations Management", "Industrial Plants", and "Quality Management" courses at the Faculty of Information Engineering, Informatics, and Statistics for the MSc and BSc in Management Engineering;

12/2022 – 02/2023   **Adjunct tutor** at Sapienza University of Rome (Italy), for the "Business Models and Tools for Entrepreneurship" course at the Faculty of Information Engineering, Informatics, and Statistics for the MSc in Management Engineering;

PROFESSIONAL EXPERIENCE

11/2022 – 12/2022   **Risk assessment analyst** at aiComply s.r.l**.** (Italy)

Support an Air Navigation Service Providers in performing the risk assessment for new developments in airport design.

01/2022 – 04/2022   **Business Intelligence analyst** at University of Rome "La Sapienza" (Italy)

Design and implementation of Business Intelligence report to create an interactive platform to support strategic decision making for a pharma enterprise for an activity named "Predisposizione di modelli di analisi tramite strumenti di Business Intelligence, attraverso la realizzazione di data model, ETL e relative visual" at University of Rome "La Sapienza".

03/2019 – 06/2019   **Business consultant** at Wuerth Phoenix s.r.l**.** (Italy)

ERP systems consultant for production environments with a focus on production control data management and visualization, and operations scheduling and planning.

PROJECTS

11/2022 – 12/2022   **Risk assessment for new airport design** in collaboration with aiComply s.r.l.

Perform the risk assessment for the design phase of a new control tower at airport to support the Air Navigation Service Provider in the implementation of changes.

01/2022 – 04/2022   **Business Intelligence and Business Analytics for product and organization management** in collaboration with aiComply s.r.l.

Design and implementation of Business Intelligence interactive dashboards to support decision making by the top management of a pharmaceutical company.

01/2022 - 03/2022   **Business Analytics on cyber attack data collected from an experimental testbed of a water treatment plant** in collaboration with University of Rome "La Sapienza"

Application of Business Analytics tools to perform analysis and calculate critical performance indicators for a water treatment plant subjected to cyber attacks. The analyzed data were collected at Singapore University of Technology and Design from a physical experimental testbed of a water treatment plant.

04/2021 - 09/2021   **Key Performance Indicator analysis and Business Intelligence reporting on aerodrome weather forecasting data** in collaboration with University of Rome "La Sapienza"

Design and implementation of a platform to perform analysis on weather forecasting accuracy and support Air Navigation Service Providers in guaranteeing correct and safe aerodrome management. Design and implementation of advanced Business Intelligence interactive dashboards to extract knowledge from historical weather data applying ETL to properly parse information inside report strings.

09/2021 - 10/2021   **Business Intelligence reporting and dashboards design for 15th Conference on Naturalistic Decision Making and 9th Symposium on Resilience Engineering** in collaboration with Resilience Engineering Association (REA)

Design and development of Business Intelligence dashboards and reports to explore and to disseminate data from the 15th Conference on Naturalistic Decision Making and 9th Symposium on Resilience Engineering organized by REA. The report is freely available at: https://www.resilience-engineering-association.org/symposium/

07/2021 - 09/2021   **Support for data modeling and artificial intelligence algorithms applied to logistics processes** in collaboration with University of Rome "La Sapienza"

Design and development of Business Intelligence dashboards and analyses based on Machine Learning on warehouse data to support decision making of logistic operators.

PUBLICATIONS

*International journals (5)**

1. Simone F., Nakhal Akel A. J., Di Gravio G., Patriarca R. (2023)**,** *Thinking in systems, sifting through simulations: a way ahead for cyber resilience assessment*, IEEE Access.
2. Simone F., Ansaldi S.M., Agnello P., Patriarca R. (2023)**,** *Industrial safety management in the digital era: constructing a Knowledge Graph from near misses*, Computers in Industry.
3. Patriarca R., Simone F., Di Gravio G. (2023)**,** *Supporting aerodrome weather forecasting performance management at aerodromes through anomaly detection and hierarchical clustering*, Expert Systems with Applications.
4. Patriarca R., Simone F., Di Gravio G. (2022), *Modelling cyber resilience in a water treatment and distribution system*, Reliability Engineering and System Safety.

*Additionally, the following manuscripts are currently under review:

Simone F., Ansaldi S.M., Agnello P., Di Gravio G., Patriarca R., (2023). *Knowledge in graphs: investigating the completeness of industrial near miss reports*, Safety Science.

*International conference proceedings (9)**

1. Nakhal Akel A. J., Simone F., Stefana E., Di Gravio G., Patriarca R., (2023). *System theoretic model checking for safety management in industrial plants.* Proceedings of XXVIII Summer School "Francesco Turco": "Blue, Resilient & Sustainable Supply Chain: the Role of Industrial Plants in Procurement, Production and Distribution", 6-8 September 2023, Genova (Italy). (in press)
2. Simone F., Nakhal Akel A. J., Alvino A., Ansaldi S. M., Agnello P., Milazzo M. F., Di Gravio G., Patriarca R., (2023). *Extending safety control structures: a knowledge graph for STAMP*, Proceedings of 31th European Safety and Reliability Conference (ESREL 2023). 03 - 08 September 2023, Southampton (United Kingdom). (in press)
3. Simone F., Di Gravio G., Patriarca R., Bortolini M., Galizia F.G., Gamberi M., (2023). *Managing industrial automation: How knowledge graphs can boost production*, Proceedings of CARV-MCPC 2023, Bologna (Italy). (In press)

4. Simone F., Cilli C., Di Gravio G., Patriarca R., (2023) *A data-driven cyber resilience assessment for industrial plants*, Proceedings of WorldCist'23 - 11st World Conference on Information Systems and Technologies, Pisa (Italy). (In press)
5. Simone F., Di Gravio G., Patriarca R. (2022). *Performance-based analysis of aerodrome weather forecasts*, Proceedings of New Trends in Civil Aviation 2022, 26-27 October 2022, CIIRC CTU in Prague (Czech Republic).
6. Simone F., Nakhal Akel A. J., Patriarca R. (2022). *Supporting warehouse management through Machine Learning*, Proceedings of XXVII Summer School "Francesco Turco": "Unconventional Plants: Technologies, tools and Methodologies for emerging domains", 7-9 September 2022, Riviera dei Fiori (Italy).
7. Simone F., Patriarca R. (2022). *A simulation-driven cyber resilience assessment for water treatment plants*, Proceedings of 30th European Safety and Reliability Conference (ESREL 2022). 28 August - 1 September 2022, Dublin (Ireland). (In press)
8. Simone F., (2021). *A Model-Based Assessment of Cyber-Resilience Evaluation for Water Purification Plants with Societal Impact*, Keynote for Poster Competition at 4th European Conference on Industrial Engineering and Operations Management (IEOM 2021). 2-5 August 2021, Rome (Italy) online.
9. Simone F., (2021). *An Integrated Simulation Model for Water Purification and Distribution*. Keynote for Simulation Competition at 4th European Conference on Industrial Engineering and Operations Management (IEOM 2021). 2-5 August 2021, Rome (Italy) online.

*Additionally, the following manuscripts are currently under review:

RESEARCH AWARDS

2023	**Resilience Engineering Association (REA) Young Talent**. Award for the best young researchers in the field of Resilience Engineering, in the Young Talents in Resilience Engineering Program, managed by the Resilience Engineering Association (REA) for the REA Symposium 2023.
2022	**IEOM Outstanding Student Leadership Award**. Awarded by the Industrial Engineering and Operations Management Society during the 5th IEOM European Conference, 26-28 July 2022 – Rome (Italy).
2021	**Winner of ESRA (European Safety and Reliability Association) scholarship** for the continuing education course on "Advanced Quantitative Risk and Resilience Assessment" organized by the Department of Energy – Politecnico di Milano (12 October - 18 November 2021).
2021	**IEOM Outstanding Student Leadership Award**. Awarded by the Industrial Engineering and Operations Management Society during the 4th IEOM European Conference, 2-5 August 2021 – Rome (Italy).
2021	**IEOM Poster Competition Award (2nd place)**. Awarded by the Industrial Engineering and Operations Management Society during the 4th IEOM European Conference, 2-5 August 2021 – Rome (Italy).
2021	**IEOM Simulation Competition Award (2nd place)**. Awarded by the Industrial Engineering and Operations Management Society during the 4th IEOM European Conference, 2-5 August 2021 – Rome (Italy).

REVIEWER

2023	Processes (MDPI)
2023	ESREL 2023 – European Conference On Safety And Reliability (ESREL), 03-08 September 2023 – Southampton (United Kingdom)
2023	Electronics (MDPI)
2023	Sustainability (MDPI)
2023	MICRADS'23 – Multidisciplinary International Conference of Research Applied to Defense and Security, 06-08 July 2023 – Bogotá (Colombia)
2023	AHFE 2023 – 14th International Conference on Applied Human Factors and Ergonomics, 20-24 July 2023 – San Francisco, California (USA)
2023	IFKAD – International Forum on Knowledge Asset Dynamics, 7-9 June 2023 – Matera (Italy)
2022	5th IEOM European Conference, 26-28 July 2022 – Rome (Italy)

LANGUAGES

Italian: mother tongue

English: B2

Rome, 21 July 2023