



Lorenzo Villani

PRESENTATION

I'm a Civil and Environmental Engineer with a master's degree in building systems engineering, with a strong passion for the discipline of project and energy management. I have gained experience in the field through my Professional Scrum Master I (PSM I) certification and my research and consultancy activities in the field of BIM and energy management of buildings. My interest in the integration of technical and management aspects led me to work on civil plant design and energy efficiency projects in advanced digital environments. My educational and professional background has allowed me to delve into project management and energy transformation, with a particular focus on digital and innovative technologies.

KEY SKILLS

- Energy Management: Knowledge of energy management of buildings and urban plant systems, with experience in energy diagnosis and drafting of energy performance certificates.
- BIM and 3D Parametric Modelling: Experience in the use of Autodesk Revit and other software for modelling in a BIM environment, with a focus on executive projects in MEP disciplines.
- Digitisation and Artificial Intelligence: Expertise in the use of advanced digital technologies and AI for energy management and digital transformation of infrastructures.
- Project Management: Strong passion for project management, with expertise in integrating technical and management aspects. Certified Professional Scrum Master I, with in-depth knowledge of Agile methodology and the Scrum framework.

PROFESSIONAL EXPERIENCE

PhD student in Energy and Environment and research collaborator at C.I.T.E.R.A. research center – La Sapienza

University of Rome, La Sapienza [29/04/2022 – Attuale]

City: Rome

Country: Italy

Sector: Education and research. Civil Engineering services

- ✓ Plant design and energy efficiency in BIM environment for projects funded by PNRR and other international initiatives.
- ✓ Organisational activities: conferences, training courses and scientific conferences.
- ✓ Technical-economic feasibility and plant design in collaboration with organisations and companies.

PUBLICATIONS

- "Integrated Technologies for Smart Building Energy Systems Refurbishment: A Case Study in Italy", DOI: <https://doi.org/10.3390/buildings15071041>
- "Digital Twin Framework to Improve Urban Sustainability and Resiliency: The Case Study of Venice", DOI: <https://doi.org/10.3390/land14010083>.
- "HBIM reconstruction in cultural heritage: the case study of the casina ceci giustiniani, Rome", DOI: [10.6092/issn.1973-9494/22468](https://doi.org/10.6092/issn.1973-9494/22468)

Chronological list of scholarships

- Winner of the 40th Cycle PhD scholarship in Energy and Environment at the Department of Astronautical, Electrical and Energy Engineering (DIAEE) of Sapienza University of Rome.
- Winner of BS-J 7/2024. Junior fellowship, SSD ING/IND-11 at the Department of Architecture and Project (DiAP) of Sapienza University of Rome. Title: 'Analytical/experimental study of data platforms for Digital Twin systems for monitoring and control of the built environment'.
- Winner of BS-J 1/2023. Junior fellowship, SSD ING/IND-11 at the Department of Architecture and Project (DiAP) of Sapienza University of Rome. Title: "Advanced integration of digital ground and satellite technologies and data for buildings and urban management: socioeconomics and environmental implications and technological solutions."
- Winner of announcement no. 10/2022 of 08/03/2022. Junior fellowship, SSD ING/IND-11 at the Department of Astronautical, Electrical and Energy Engineering (DIAEE) of Sapienza University of Rome. Title: 'BIM modelling in REVIT environment of critical infrastructures'.

VR consultant at A.N.E.V.

A.N.E.V. Associazione Nazionale Energia del Vento [28/04/2023 – Attuale]

City: Rome

Country: Italy

- ✓ Application and use of VR technologies for training in the Operational & Maintenance of wind turbines.

BIM and MEP discipline consultant

Alcotec S.p.A. [07/01/2025– 31/03/2025]

City: Rome

Country: Italy

- ✓ MEP plant design activities in BIM environment

Studio Artea S.r.L. [16/02/2024 – 10/10/2024]

City: Rome

Country: Italy

- ✓ Resume of executive projects of MEP disciplines in BIM environment.

Studio Speri S.p.A. [19/05/2022– 04/10/2023]

City: Roma

Country: Italia

- ✓ MEP plant design activities in BIM environment

Technical collaborator at the C.I.T.E.R.A. research centre - Sapienza

Università degli studi di Roma, La Sapienza [14/01/2022 – 14/03/2022]

City: Roma

Country: Italia

- ✓ Evaluation and energy diagnosis of buildings with the relative drafting of energy performance certificates (APE) for eligibility for application of the 110% Superbonus, specific technological solutions and BEM (Building Energy Model)

Trainee at C.I.T.E.R.A. research centre - Sapienza

Università degli studi di Roma, La Sapienza [07/05/2021 – 10/09/2021]

City: Roma

Country: Italia

- Deepening knowledge of Energy Management
- Basic acquisition of the ability to assess the management implications of an energy transformation project in all its phases

- Acquisition of the basic skills for a feasibility analysis to set up an energy transformation project by assessing its risks and benefits
- Acquisition of the basic competence to assess the critical factors of change

EDUCATION AND TRAINING

Master's degree in building systems engineering, faculty of Architecture and Civil Engineering

University of Rome, La Sapienza [10/09/2022 – 17/07/2024]

Address: Via Gramsci 53, 00197 Roma (Italia)

Web site: <https://web.uniroma1.it/disg/>

Rating: 110 cum laude/110

Professional Scrum Master I (PSM I)

Scrum.org [03/09/2022]

Web site: <https://www.scrum.org/>

Rating:100/100

Auditor of the II level master (M2) in Construction Digital Twin & Artificial Intelligence

University of Rome La Sapienza [25/02/2022 – 24/02/2023]

Address: Via Gramsci 53, 00197 Roma (Italia)

Bachelor's degree in building sciences and techniques, faculty of Architecture

University of Rome, La Sapienza [10/09/2019 – 28/10/2021]

Address: Via Gramsci 53, 00197 Roma (Italia)

Web site: <https://www.architettura.uniroma1.it/>

Rating:105/110

LANGUAGE SKILLS

Mother tongue: **italian**

Other languages

English

LISTENING B2 **READING** B2 **WRITING** B2

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

<i>Software</i>	<i>Base</i>	<i>Good knowledge</i>	<i>Intermediate knowledge</i>	<i>Excellent knowledge</i>	<i>Uses</i>
Termus,BIM ACCA Software				✓	<i>Energy diagnosis of building complexes (harbours, hospitals and other)</i>
Revit, Autodesk				✓	<i>Executive projects in Civil Engineering sector</i>
AutoCAD, Autodesk				✓	<i>Executive projects in Civil Engineering sector</i>
RenewablesNinja			✓		<i>Various</i>
Pacchetto Office				✓	<i>Various</i>
MatLab	✓				<i>Coding for the automatic calculation of heat load</i>
Python	✓				<i>Coding for the automatic calculation of heat load</i>