



Nicola Papini

📍 **Home:** Via Pietro Brazza, 8, 06127, Perugia, Italy

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Gender: Male **Date of birth:** 07/08/1997 **Nationality:** Italian

ABOUT MYSELF

Electronics Engineer with a Bachelor's and Master's degree in Electronic Engineering, specializing in sensors and IoT systems. I have nearly 4 years of experience in Systems Engineering applied to complex systems within the aerospace and defense sectors. Currently completing a PhD program, which has further strengthened my STEM knowledge, critical thinking, and advanced problem-solving skills, along with effective communication abilities.

Technical Skills and Competencies:

- Proficient in circuit analysis and electronic design software at various levels of abstraction.
- Skilled in multiple programming languages for the implementation of analytical models and algorithms.
- Experience in 3D printing and CAD design of electro-mechanical components, including FEM simulations (electrical and electromagnetic, both low and high frequency).
- Strong background in technical documentation, including design reports and technical specifications.

I am seeking an opportunity to further develop my technical expertise in a creative and dynamic environment, ideally within an international context.

WORK EXPERIENCE

AIRBUS ITALY S.p.A.

City: Rome | **Country:** Italy

[01/01/2026 - Current]

RF & System Engineer

RF system analysis and developments, particularly in the RF active field for space applications, where the primary tasks and activities will include:

- RF microwave system design and performance analysis, wide knowledge of system designing and dimensioning, antenna, RF system and signal processing requirements specification;
- Deep knowledge in the field of RF active phased array antenna;
- Design of active and passive RF components, from few MHz up to tens of GHz, including concept formulation, feasibility and trade-off;
- In collaboration with other disciplines (quality, mechanical, thermal, technology), selection and detailed definition of the most appropriate manufacturing processes and procedures to be followed for the development of space qualified RF components;
- Implementation of components purchase and development plan;
- Consolidated experience on testing capabilities and procedures by means of the most common measurement techniques and instrumentation;
- Contribution to the preparation of proposals for industrial and R&D activities;

- Preparation of technical reports, program reviews, documentation and presentations.

MBDA Italy

City: Rome | **Country:** Italy

[01/10/2024 - 31/12/2025] **System Engineer Practitioner**

Acted as Work Package Leader for internal international projects and served as Technical Point of Contact and Task Leader on European and R&D initiatives. Responsible for the functional design of systems and subsystems, including functional requirements and communication interfaces definition. Led system validation through test procedure development and execution.

University of Strathclyde

City: Glasgow | **Country:** United Kingdom

[01/06/2024 - 30/09/2024] **PhD Visiting Researcher**

Planned and managed laboratory activities, including sample preparation and testing of conductive/non-conductive liquids and sands with varying densities and moisture levels. Conducted sensor-based measurements for material characterization and developed data analysis algorithms for the extraction of information.

MBDA Italy

City: Paris | **Country:** France

[16/03/2023 - 31/05/2024] **System Design Engineer**

Responsible for the functional design of systems and subsystems, including requirements and interface definition. Acted as Point of Contact with partners and managed logistical operations during system deployment.

MBDA Italy

City: Rome | **Country:** Italy

[02/11/2021 - 15/03/2023] **System Design Engineer**

Led the functional design of systems and subsystems, including requirements and interface definition. Defined and executed test procedures for system validation and served as Point of Contact with project partners.

University of Perugia

City: Perugia | **Country:** Italy

[01/02/2020 - 01/08/2021] **Physics Tutor**

Planned and managed practical physics lessons, including exercises and theoretical reviews. Delivered lectures on mechanics and electromagnetism, and acted as the liaison between students and the professor.

EDUCATION & TRAINING

[01/11/2022 - 20/02/2026] **Doctor of Philosophy in Energy and Sustainable Development**

University of Perugia <https://www.unipg.it/>

City: Perugia | **Country:** Italy | **Level in EQF:** 8

[15/09/2019 - 24/09/2021] **Master's Degree in Electronic Engineering for Internet of Things**

University of Perugia <https://www.unipg.it/>

City: Perugia | **Country:** Italy | **Field(s) of study:** Electronics and automation | **Final grade:** 110/110 cum Laude | **Level in EQF:** 7 | **Thesis:** Low-cost capacitive water content sensor for the IoT precision agriculture scenario: analysis and optimization.

[15/09/2016 - 20/09/2019] **Bachelor's Degree in Electronic and Computer Science Engineering**

University of Perugia <https://www.unipg.it/>

City: Perugia | **Country:** Italy | **Field(s) of study:** Engineering, manufacturing and construction not further defined , Electronics and automation , Electricity and energy | **Final grade:** 110/110 cum Laude | **Level in EQF:** 6 | **Thesis:** Transmission Lines analysis with Conformal Geometric Algebra

MANAGEMENT AND LEADERSHIP SKILLS

Social Change Manager

During the course, I developed skills in terms of:

- Sustainable process management;
- Development of a transformative vision by establishing partnerships between profit and non-profit associations through the management of impact and the use of technologies.

Link: <https://bestr.it/verify/K7AQGXUN4>

SKILLS

Basic Programming Knowledge in: Python, C, VHDL, MATLAB, Java and C++. | VLSI Designing | VHDL language (basic) | use object-oriented programming | FEM Simulations | 3D prototyping and printing

Microsoft

Microsoft Excel | Microsoft Powerpoint | Microsoft Office | Microsoft Word

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

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

SPOKEN PRODUCTION: B2 **SPOKEN INTERACTION:** B2

French

LISTENING: A2 **READING:** A2 **WRITING:** A1

SPOKEN PRODUCTION: A1 **SPOKEN INTERACTION:** A1

PUBLICATIONS

[2025] **Simulation Framework for Assessing VWC Performance in Low-Cost Smart Agriculture Sensors**

Reference: N. Papini, C. V. Delle Vergini, A. Scorzoni, P. Placidi, M. Cecconi, A. Tarantino, C. Petroselli, D. Caputo, N. Lovecchio
Accepted, publication in progress.

Journal Name: IEEE SAS

- [2025] **A novel instrument for characterising the electrical properties of dry granular-porous materials**
Reference: N. Papini, C. V. Delle Vergini, A. Scorzoni, P. Placidi, M. Cecconi, A. Tarantino
 Accepted, publication in progress
Journal Name: IEEE I2MTC
- [2025] **Measurement-Based Model for Water Content Estimation in Sustainable Granular Materials Using an IoT Custom Device**
Reference: N. Papini; L. Rugini; M. Cecconi; A. Scorzoni; A. Tarantino; P. Placidi
Journal Name: IEEE Transactions on Instrumentation and Measurement
- [2024] **Effect of Physical Properties of Granular Sustainable-Porous Materials on Water Content Measurements by Using a Low-Cost Sensor**
Reference: N. Papini, M. Cecconi, P. Placidi, A. Scorzoni and A. Tarantino
Journal Name: IEEE I2MTC
- [2023] **Soil Water Content Sensor in the IoT Precision Agriculture**
Reference: P. Placidi, C. V. Delle Vergini, N. Papini, E. Ciancabilla, M. Cecconi, A. Scorzoni,
Journal Name: IEEE Sensors
- [2023] **Low-Cost and Low-Frequency Impedance Meter for Soil Water Content Measurement in the Precision Agriculture Scenario**
Reference: P. Placidi, C. V. D. Vergini, N. Papini, M. Cecconi, P. Mezzanotte, A. Scorzoni
Journal Name: IEEE Transactions on Instrumentation and Measurement
- [2022] **Capacitive Low-Cost System for Soil Water Content Measurement in the IoT Precision Agriculture**
Reference: P. Placidi, N. Papini, C. V. Delle Vergini, P. Mezzanotte, A. Scorzoni
Journal Name: IEEE I2MTC
- [2021] **Distributed monitoring of soil water content and temperature in the IoT precision agriculture scenario by using a wireless system based on low-cost components**
Reference: P. Placidi, R. Morbidelli, D. Fortunati, F. Gobbi, N. Papini, A. Scorzoni
Journal Name: MDPI Sensors

VOLUNTEERING

- [02/2024 - 02/2025] **Member of the Board of Directors at "La Company"** Perugia
 Member of the board of directors at "La Company", an amateur sports association with the purpose to organize, plan and guide hiking and trekking activities to explore and enhance the territory of central Italy. Main responsibilities.
- [01/01/2018 - 24/09/2021] **Student Representative** Perugia
 Served as a member of both the Engineering Department Council and the Computer Science and Electronic Engineering Department Council. Acted as liaison between students and professors, and coordinated student-focused events such as seminars and educational trips.

DRIVING LICENCE

Motorbikes: AM
Cars: B

Luogo e data, Perugia 07/03/2026

