





Luca Notarpietro

Ph.D. Student in Electrical Engineering, Polytechnic University of Bari

 I.notarpietro@phd.poliba.com  +39 3890964650

 Andria, Italy

Abstract

Second-year Ph.D. Student at the Polytechnic University of Bari, conducting research in the field of Power Electronic Converters. Highly motivated to apply theoretical and experimental skills in practical contexts, aiming to actively contribute to innovative projects while expanding professional and cultural experience.

Education

- *Ph.D. in Electrical Engineering, Polytechnic University of Bari (2023 – present)*
Research on modeling and simulation of power converters using MATLAB/Simulink and PLECS, degradation estimation of PV inverters through neural networks, FPGA (Vivado/Vitis) programming, and PCB design (Altium).
- *Master's degree in electrical engineering, Polytechnic University of Bari (2020 – 2023)*
Thesis: Design and testing of a two-level three-phase inverter.
- *Bachelor's degree in electrical engineering, Polytechnic University of Bari (2016 – 2019)*
Thesis: CAD drawing of a half-bridge converter

Research and Project Experience

- Design and testing SiC-MOSFET and IGBT-based inverters and converters.
- Modeling of Grid-Connected PV systems.
- Development of neural network models for performance prediction and predictive maintenance.
- VHDL & C programming for Xilinx FPGA.

Technical Skills

MATLAB/Simulink – PLECS – Altium Designer – Vivado/Vitis – LabVIEW – VHDL/C.

Languages

Italian (native) | English (B1 level)

Interests

Power electronics, AI applied to energy systems, astronomy, travel, and scientific reading.

Paper ID: 220

Title: Comparative Analysis of Neural Network Models for PV Inverter Variable Prediction