

Antonio Squicciarini

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[LinkedIn](#) — [GitHub](#) — [Portfolio](#)

PROFESSIONAL SUMMARY

Machine Learning Specialist and Mechanical Engineer nearing completion of a Ph.D. in Applied Mathematics and Statistics. Experienced in developing AI models for physiological time-series, vibration data, and electrical signal diagnostics. Focused on robust classification, anomaly detection, and feature extraction using deep learning and information theory. Currently seeking opportunities in research or applied AI where deep learning meets complex real-world data.

PROJECTS AND PUBLICATIONS

Jensen-Tsallis Divergence for Supervised Deep Learning Classification with Data Imbalance <i>ECML PKDD, Machine Learning (Springer), 2025</i> – Currently under publication — Project Info — GitHub	2024–2025
Scalp EEG Seizure Detection with Information Features and Deep Learning Models <i>Mathematics (MDPI), 2024</i> – DOI: 10.3390/math12152396 — Project Info — GitHub	2021–2025
Rub Detection in Rotating Machines with Deep Transfer Learning <i>Advanced Engineering Informatics (Elsevier), 2024</i> – DOI: 10.1016/j.aei.2024.102607 — Project Info	2020–2021
Partial Discharge Classification in HV AC/DC Grids, 2023 <i>Sensors (MDPI), 2023</i> – DOI: 10.3390/s23146317 — Project Info	2020–2023

WORK EXPERIENCE

Researcher (Full-time), Machine Learning & Data Analysis <i>Universidad Politécnica de Madrid (UPM), Fundación para el Fomento de la Innovación Industrial (F2i2)</i> Built ML models for high-voltage AC/DC partial discharge diagnosis.	Sep 2020 – Sep 2021
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EDUCATION

Ph.D., Applied Mathematics and Statistics <i>Universidad Politécnica de Madrid (UPM)</i> Thesis: <i>Design of Deep Learning Classification Algorithms based on Information and Complexity Metrics.</i>	Sep 2021 – Present
Research Mobility, Visiting Scholar <i>Cornell Tech, Cornell University, New York, USA</i>	Aug – Dec 2024
M.Sc., Mechanical Engineering <i>Politecnico di Torino, Italy (Erasmus+ at ETSII - UPM, Madrid, Spain)</i>	Sep 2018 – Oct 2020 Graduated with 110/110 <i>cum laude</i>
B.Sc., Mechanical Engineering <i>Politecnico di Torino, Italy</i>	Sep 2015 – Jul 2018 Graduated with 110/110

SKILLS

Programming: Python (TensorFlow, PyTorch), R, MATLAB, C
Software and Tools: Git, LaTeX, Jupyter, SolidWorks, ANSYS, NX Siemens, FlexSim, Automation Studio, Azure AI
Languages: Italian (native), English (fluent), Spanish (fluent)

ADDITIONAL ACTIVITIES

Sabuncu Lab Reading Group, Cornell Tech (2024–Present) — Focus on foundation models, diffusion models, and LLMs.
PoliTo Sailing Team, Dynamics Division (2017) — Simulated and optimized performance for competitive sailing vessels.

INTERESTS AND HOBBIES

I enjoy hiking, photography, and exploring new cultures. I'm passionate about learning—especially languages, science, and public policy, and regularly consume books, podcasts, and documentaries. I stay active through running and gym workouts and love to travel. I'm also interested in volunteering, improvisation theatre, and creative pursuits like dance and photography.