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 *2024–2025*
ECML PKDD (Springer) – Currently under publication — Project Info — GitHub

Scalp EEG Seizure Detection with Information Features and Deep Learning Models *2021–2025*
Mathematics (MDPI), 2024 – DOI: 10.3390/math12152396 — Project Info — GitHub

Rub Detection in Rotating Machines with Deep Transfer Learning *2020–2021*
Advanced Engineering Informatics (Elsevier) – DOI: 10.1016/j.aei.2024.102607 — Project Info

Partial Discharge Classification in HV AC/DC Grids *2020–2023*
Sensors (MDPI) – DOI: 10.3390/s23146317 — Project Info

WORK EXPERIENCE

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

EDUCATION

Ph.D., Applied Mathematics and Statistics Sep 2021 – Present
Universidad Politécnica de Madrid (UPM)
Thesis: *Design of Deep Learning Classification Algorithms based on Information and Complexity Metrics.*

Research Mobility, Visiting Scholar Aug – Dec 2024
Cornell Tech, Cornell University, New York, USA

M.Sc., Mechanical Engineering Sep 2018 – Oct 2020
Politecnico di Torino, Italy *(Erasmus+ at ETSII - UPM, Madrid, Spain)* Graduated with 110/110 *cum laude*

B.Sc., Mechanical Engineering Sep 2015 – Jul 2018
Politecnico di Torino, Italy 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.