

# RAFFAELE GIUSEPPE CESTARI, Ph.D.

20-12-1996

My website!

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## EDUCATION

- **Politecnico di Milano** Milan, Italy  
*Ph.D. in Information Technology cum Laude* Nov. 2021 – Oct. 2024
- **Cornell University** Ithaca (NY), USA  
*Visiting Ph.D. Student in Information Technology* June 2023 – Aug. 2023
- **Politecnico di Milano** Milan, Italy  
*Master of Science in Automation and Control Engineering - 110/110 cum Laude* March. 2019 – July. 2021
- **Politecnico di Milano** Milan, Italy  
*Bachelor's in Mechanical Engineering - 92/110* Oct. 2015 – March. 2019

## EXPERIENCE

- **Reply** Milan, Italy  
*AI Engineer - Adeptic Reply* Sep. 2025 – Today
- **Politecnico di Milano** Milan, Italy  
*Postdoctoral Researcher - data-driven control for financial trading* Nov. 2024 – Aug. 2025
- **Politecnico di Milano** Milan, Italy  
*Instructor of Fundamentals of Automatic Control (4 course editions)* Feb. 2023 – May. 2025
- **Exacon s.r.l.** Milan, Italy  
*Data Engineer* Aug. 2021 – Oct. 2021

## PROJECTS

- **Aeronautica Militare [2022-2025]**: Automated Fleet Planning of Italian Air Force (P.A.F.AM).
- **FIVES Intralogistics [2024]**: Model predictive control of mobile robots fleet.
- **KPMG [2024]**: Learning-based anomaly detection for the Profit & Loss attribution test.
- **CNH Industrial [2023]**: Vertical load estimation in tractors via in-wheel optical sensing.
- **UnipolTech [2023]**: Big data analytics of private vehicles mobility.
- **Tenaris [2020]**: Energy consumption forecasting for steel production optimization.

## PATENTS

- **Misurare un carico su un veicolo agricolo**: 102024000013171 - CNH INDUSTRIAL ITALIA S.P.A., 10/06/2024

## PUBLICATIONS

- **E-Private Mobility Index: A Novel Tool for Assessing BEV Transition Feasibility**: Sustainability, 2025.
- **Univariate Hawkes-based cryptocurrency forecasting via LOB data**: ECC 2025, Thessaloniki, Greece.
- **Enhancing portfolio covariance estimation: a hybrid prediction approach**: ECC 2025, Thessaloniki, Greece.
- **Control-oriented modeling for MPC of water reservoir systems**: International Journal of Control, 2025.
- **Non-linear multi-objective Bayesian MPC of water reservoir systems**: European Journal of Control, 2025.
- **Split-boost neural networks**: SYSID 2024, Boston, USA.
- **Vertical load estimation in tractors via in-wheel optical sensing**: SYSID 2024, Boston, USA.
- **MPC with adaptive resilience for DoS attacks mitigation on a regulated dam**: CDC 2024, Milan, Italy.
- **Scenario-based model predictive control of water reservoir systems**: MECC 2023, Lake Tahoe (NV), USA.
- **Hourly operation of a regulated lake via model predictive control**: IFAC CMWRS 2022, Milan, Italy.

## CERTIFICATES AND SKILLS

**State Exam**: Information Engineer, Section A: 78/100

**Coding**: Python, Matlab/Simulink, C++, SQL

**English**: TOEIC - 940/990

**Tech**: PyTorch, Spark, Git, Django, Selenium, Kali