

# RAFFAELE GIUSEPPE CESTARI

20-12-1996

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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
- ETH Zurich** Zurich, Switzerland  
*Visiting Ph.D. Student for Learning-Based Predictive Control* July 2022
- 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

- Politecnico di Milano** Milan, Italy  
*Postdoctoral Researcher - Data-driven Control for Financial Trading* Nov. 2024 – Today
- Politecnico di Milano** Milan, Italy  
*Instructor of Fundamentals of Automatic Control* 2023 – Today
- Exacon s.r.l.** Milan, Italy  
*Data Engineer* Aug. 2021 – Oct. 2021

## 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.

## PROJECTS

- Aeronautica Militare [2021-Today]:** Automated Fleet Planning of Italian Air Force (P.A.F.AM).
- KPMG [2024-Today]:** Learning-based anomaly detection for the Profit & Loss attribution test.
- FIVES Intralogistics [2024-Today]:** Model predictive control of mobile robots fleet.
- UnipolTech [2023]:** Big data analytics of private vehicles mobility.
- CNH Industrial [2023]:** Vertical load estimation in tractors via in-wheel optical sensing.
- Tenaris [2020]:** Energy consumption forecasting for steel production optimization.

## CERTIFICATES AND SKILLS

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

**English:** TOEIC - 940/990

**Coding:** Python, Matlab/Simulink, C++, SQL    **Tech:** PyTorch, Spark, Gurobi, CVX, Django, Selenium, Kali