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 — *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*

Projects

- **Aeronautica Militare [2022-Today]**: 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

English: TOEIC - 940/990

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

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