Alessandro Falsone's

Curriculum Vitae et Studiorum

Current Position

Senior Assistant Professor
Dipartimento di Elettronica, Informazione e Bioingegneria (DEIB)
Politecnico di Milano
Via Ponzio, 34/5 – 20133 Milano (MI), Italy
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Positions Held

Senior Assistant Professor **October 2021 →**
Politecnico di Milano
Research project: *"Control and coordination of multi-agent complex systems."*

Junior Assistant Professor **November 2018 – October 2021**
Politecnico di Milano
Research project: *"Distributed model predictive control for uncertain multi-agent systems."*

Research Fellow **November 2017 – October 2018**
Politecnico di Milano
Research project: *"Distributed model predictive control with application to energy and transportation systems."*

Visiting PhD Student **September 2016 – November 2016**
University of Oxford

PhD Student **November 2014 – October 2017**
Politecnico di Milano
PhD student in Information Technology – Systems and Control division

Research Fellow **January 2014 – October 2014**
Politecnico di Milano
Research project: *"Randomized algorithms for nonlinear system identification."*

Guest Researcher **October 2013 – December 2013**
Politecnico di Milano

Education

PhD in Information Technology – Systems and Control **February 2018**
Politecnico di Milano
PhD thesis: "Distributed decision making with application to energy systems"
Advisor: Prof. Maria Prandini
Co-advisor: Prof. Simone Garatti
Grade: cum laude
ISCED 6

Laurea Magistrale in Ingegneria dell'Automazione (LM-25) **October 2013**
Politecnico di Milano
Master thesis: "A randomized approach to the prediction of critical situations for air traffic due to uncontrolled space debris reentry"
Advisor: Prof. Maria Prandini
Grade: 110/110 cum laude
Equivalent to: Master in Automation and Control Engineering (ISCED 5)

Laurea in Ingegneria dell'Automazione (L-8) **September 2011**
Politecnico di Milano
Grade: 110/110
Equivalent to: Bachelor in Automation and Control Engineering (ISCED 5)

Diploma di Maturità Scientifica **July 2008**

Liceo Scientifico Statale Luigi Cremona
Grade: 88/100
Equivalent to: High School Diploma (ISCED 3)

Research Interests

Distributed decision-making

Several applications, ranging from robotics to energy and transportation systems, can be abstracted as large-scale multi-agent systems in which the agents are cooperatively aiming at optimizing the overall system performance. However, solving the resulting optimization problem on a single computer may be impractical due to the prohibitive computational effort associated to the system typical large-scale nature. This calls for alternative resolution strategies, where each agent iteratively solves a local, smaller, optimization problem and then shares some information on the tentative solution with its neighboring agents. The research in distributed optimization studies under which conditions and information sharing schemes the agents are able to collectively achieve the optimal overall system performance using locally available information only.

Data-based methods for optimization

Uncertainty is inevitably present in every real world application, whether it comes from model mismatches or external disturbances. Handling uncertainty becomes particularly important when the system under control has to satisfy some constraints, for example to guarantee safe operations. Moreover, it is often the case that information regarding the uncertainty comes in the form of data points, which are becoming more and more abundant nowadays. In data-based optimization one typically enforces the constraints based on the available data and then studies how the data-based solution behaves with respect to the constraint of interest, for unseen realizations of the uncertainty.

Nonlinear and hybrid model identification

In most control applications, building a reliable model is of paramount importance. System identification is the process of building a mathematical model of a dynamical system starting from input-output data pairs collected conducting targeted experiments. Unfortunately, systems are becoming more and more complex, difficult to derive from first principles, and often integrating both continuous and discrete dynamics. When the system is nonlinear, one is faced with the joint identification of the best functional approximation within a given family of functions and the estimation of its parameters; whereas, when the system is hybrid, one is faced with a joint model identification and data classification problem whenever the discrete state is not available. The research in nonlinear and hybrid model identification seeks for innovative solutions for the black-box identification of such dynamical systems.

Research Activities

National research projects

Analisi in simulazione della stabilità di reti elettriche caratterizzate da elevata presenza di generazione distribuita 2021
Responsible of the research commissioned by the "Ricerca sul Sistema Energetico – RSE S.p.a." company to study the stability properties of low-inertial electric grids.

Team member in international research projects

UnCoVerCPS 2015–2019
Unifying Control and Verification of Cyber-Physical Systems, H2020, research contract H2020-ICT2014-1/643921 funded by the European Commission

Co-supervisor of PhD students

Lucrezia Manieri Politecnico di Milano – 2020/23
A distributed optimization framework for predictive control of multi-agent systems affected by stochastic uncertainty

Supervisor of post-master researchers

Iman Ebrahimi — Politecnico di Milano – 2021
Stability analysis of low-inertia electric grid

Supervisor of master students

Iman Ebrahimi — Politecnico di Milano – April 2021
A Privacy-Preserving Data-Driven Decentralized Scheme with Feasibility Guarantees for Multi-Agent MILPs

Co-supervisor of master students

Lorenzo Tuissi — Politecnico di Milano – December 2020
Optimal battery sizing and operation in a distributed energy resources system with renewables

Lucrezia Manieri — Politecnico di Milano – October 2020
Large-scale MILP solution via a multi-agent reformulation

Andrea Ghezzi — Politecnico di Milano – October 2020
Model predictive control of stochastic linear systems with constraint prioritization

Jacopo Zizzo — Politecnico di Milano – December 2019
Resource and load allocation via linear multi-agent optimization: probabilistic certificates of solution stability

Federico Molinari — Politecnico di Milano – December 2019
A data-driven decentralized solution to uncertain multi-agent MILPs with a vehicle-to-grid application

Paolo Emidi — Politecnico di Milano – December 2019
A decentralized approach to multi-agent cooperative control

Marta Valsecchi — Politecnico di Milano – April 2019
Short-term forecast of solar irradiance for PV power plants

Paolo Della Bella — Politecnico di Milano – April 2018
Two different approaches to the optimal management of a district network with a shared thermal storage

Toshiaki Okano — Politecnico di Milano – July 2017
Approximate solution to decomposable MILPs with coupling constraints: a numerical study

Stefano Mutti — Politecnico di Milano – December 2016
A novel distributed approach to power control in wireless cellular networks

Vedad Causevich — Politecnico di Milano – December 2016
Energy management in a multi-building setup via distributed stochastic optimization

Fabio Belluschi — Politecnico di Milano – April 2016
Energy management of a multi?building system via distributed optimization

Caterina Brocchini — Politecnico di Milano – December 2015
A chance-constrained approach to the quantized control of a heat ventilation and air conditioning system with prioritized constraints

Federico Bianchi — Politecnico di Milano – December 2015
A randomized approach for NARX model identification based on a multivariate Bernoulli distribution

Teaching Activities

Lecturer

Course: Automation and Control Laboratory
Master degree in Automation and Control Engineering – 5 credits
Period(s): March 2022 – June 2022 (95 hours)
March 2021 – June 2021 (95 hours)
March 2020 – June 2020 (95 hours)
University: Politecnico di Milano

Co-Lecturer

Course: Distributed Algorithms for Optimization and Control over Networks
Ph.D. degree in Information Technology, Systems and Control – 5 credits
Period(s): February 11, 2020 (2 hours) and April 16, 2020 (4 hours)
University: Politecnico di Milano

Teaching Assistant

Course: Fondamenti di Automatica
Bachelor degree in Information and Telecommunication Engineering – 10 credits
Period(s): March 2022 – June 2022 (35 hours)
March 2021 – June 2021 (35 hours)
March 2020 – June 2020 (35 hours)
March 2019 – June 2019 (35 hours)
March 2018 – June 2018 (35 hours)
March 2017 – June 2017 (35 hours)
University: Politecnico di Milano

Course: Fondamenti di Automatica
Bachelor degree in Information Engineering – 10 credits
Period(s): March 2016 – June 2016 (15 hours)
March 2015 – June 2015 (15 hours)
March 2014 – June 2014 (30 hours)
University: Politecnico di Milano

Course: Fondamenti di Automatica
Bachelor degree in Biomedical Engineering – 7 credits
Period(s): October 2015 – January 2016 (28 hours)
October 2014 – January 2015 (28 hours)
University: Politecnico di Milano

Laboratory Assistant

Course: Controllo dei Processi
Bachelor degree in Automation and Control Engineering – 8 credits
Period(s): March 2019 – June 2019 (12 hours)
University: Politecnico di Milano

Course: Fondamenti di Automatica
Bachelor degree in Information and Telecommunication Engineering – 10 credits
Period(s): March 2019 – June 2019 (12 hours)
University: Politecnico di Milano

Scholarships

PhD Scholarphip **2014–2017**
Ministero dell'Istruzione, dell'Università e della Ricerca
Winner (1st place) of a three-year scholarship for the PhD program in Information Technology

Cavaliere del Lavoro Pietro Catelli **2011–2012**
Artsana Group
Winner (1st place) of a scholarship for academic achievements

Certifications

Test Of English for International Communication – TOEIC **September 2011**
CEFR level: C1
Reading: 470/495, Listening: 480/495 – Total Score: 950/990.

Awards

Best Young Author Journal Paper Award – IEEE CSS Italy Chapter **2019**
Recipient of the "Best Young Author Journal Paper Award", promoted by the IEEE Control Systems Society Italy Chapter, recognizing distinguished papers by young researchers in the field of control systems published in the previous calendar year. The awarded paper is [J11].

Best Oral Presentation **2018**
Recipient of the "Best Oral Presentation Award" at the national conference Automatica.it 2018.

Dimitris N. Chorafas Prize **2018**
Price awarded by the Dimitris N. Chorafas Foundation to the best PhD thesis in selected fields in the engineering sciences, medicine and the natural sciences.

Unlock Your Ability – ABB & PoliHub Challenge **2017**
Member of one of the three winning teams in the "Unlock Your Ability" challenge, promoted by ABB and PoliHub, calling for ideas able to provide innovation in the energy distribution field.

IEEE CSS Video Clip Contest **2014**
Member of the winning team (1st place) for the first edition of the IEEE CSS Video Clip Contest. A challenge, promoted by the IEEE Control System Society, calling for video clips promoting the field of control theory to a broader audience.

Invited Presentations

Workshop speaker
"A distributed data-based approach to multi-agent decision-making", Data-based Methods for Interconnected Systems: Theory and Algorithms Workshop, IFAC '20.

Invited session speaker

"New results on resource sharing problems with random agent arrivals and an application to economic dispatch in power systems", Invited session on Learning with Guarantees in Control and Decision-Making, CDC '21.

"A distributed iterative algorithm for multi-agent MILPs: finite-time feasibility and performance characterization", Invited session on Multi-agent Distributed Optimization over Networks, CDC '18.

"Optimally shaping the stationary distribution of a constrained discrete time stochastic linear system via disturbance compensation", Invited session on Advances in Stochastic Systems, Estimation and Control, CDC '17.

"A proximal minimization based distributed approach to power control in wireless networks: Performance and comparative analysis", Invited session on Distributed and Big-data Optimization, CDC '17.

"Distributed constrained convex optimization and consensus via dual decomposition and proximal minimization", Invited session on Distributed and Large-scale Optimization, CDC '16.

Editorial Activities

IEEE Control System Society Conference Editorial Board Member **2021 →**

International Program Committee Member

CASE '21: 17th International Conference on Automation Science and Engineering
CASE '20: 16th International Conference on Automation Science and Engineering
CASE '19: 15th International Conference on Automation Science and Engineering
ICARCV '18: 15th International Conference on Control, Automation, Robotics and Vision

Contribution to the Organization of International Scientific Events

Conferences

Webmaster of the 21st ACM International Conference on Hybrid Systems: Computation and Control

Workshop

Co-organizer of the UnCoVerCPS workshop held in Milano within the european project UnCoVerCPS

Memberships

Communities

Member of the IEEE Control System Society
Member of the IEEE Technical Committee on Networks and Communications

Additional Information

Judo black belt (sho dan) **March 2011**

Associazione Amici del Judo

Publications

International Journals

[J1] L. Manieri, A. Falsone, and M. Prandini, "Hyper-graph partitioning for a multi-agent reformulation of large-scale MILPs", *IEEE Control Systems Letters*, vol. 6, pp. 1346–1351, 2022. DOI: 10.1109/LCSYS.2021.3093338.

[J2] A. Falsone, L. Deori, D. Ioli, S. Garatti, and M. Prandini, "Optimal steady-state disturbance compensation for constrained linear systems: The gaussian noise case", *IEEE Transactions on Automatic Control*, December 2022, Accepted. DOI: 10.1109/TAC.2021.3127431.

[J3] A. Falsone and M. Prandini, "Distributed decision-coupled constrained optimization via Proximal-Tracking", *Automatica*, vol. 135, p. 109 938, January 2022. DOI: 10.1016/j.automatica.2021.109938.

[J4] A. L. Bella, A. Falsone, D. Ioli, M. Prandini, and R. Scattolini, "A mixed-integer distributed approach to prosumers aggregation for providing balancing services", *Journal of Electrical Power and Energy Systems*, vol. 133, p. 107 228, December 2021. DOI: 10.1016/j.ijepes.2021.107228.

[J5] A. Falsone and M. Prandini, "A distributed dual proximal minimization algorithm for constraint-coupled optimization problems", *IEEE Control Systems Letters*, vol. 5, no. 1, pp. 259–264, January 2021. DOI: 10.1109/LCSYS.2020.3001427.

[J6] A. Falsone, I. Notarnicola, G. Notarstefano, and M. Prandini, "Tracking-ADMM for distributed constraint-coupled optimization", *Automatica*, vol. 117, p. 108 962, Jul. 2020. DOI: 10.1016/j.automatica.2020.108962.

[J7] F. Belluschi, A. Falsone, D. Ioli, K. Margellos, S. Garatti, and M. Prandini, "Distributed optimization for structured programs and its application to energy management in a building district", *Journal of Process Control*, vol. 89, pp. 11–21, May 2020. DOI: 10.1016/j.jprocont.2020.03.005.

[J8] A. Falsone, L. Deori, D. Ioli, S. Garatti, and M. Prandini, "Optimal disturbance compensation for constrained linear systems operating in stationary conditions: A scenario-based approach", *Automatica*, vol. 110, p. 108 537, December 2019. DOI: 10.1016/j.automatica.2019.108537.

[J9] A. Falsone, K. Margellos, and M. Prandini, "A decentralized approach to multi-agent MILPs: Finite-time feasibility and performance guarantees", *Automatica*, vol. 103, pp. 141–150, May 2019. DOI: 10.1016/j.automatica.2019.01.009.

[J10] D. Ioli, A. Falsone, A. V. Papadopoulos, and M. Prandini, "A compositional modeling framework for the optimal energy management of a district network", *Journal of Process Control*, vol. 74, pp. 160–176, February 2019. DOI: 10.1016/j.jprocont.2017.10.005.

[J11] A. Falsone, K. Margellos, and M. Prandini, "A distributed iterative algorithm for multi-agent MILPs: Finite-time feasibility and performance characterization", *IEEE Control Systems Letters*, vol. 2, no. 4, pp. 563–568, October 2018. DOI: 10.1109/LCSYS.2018.2844353.

[J12] A. Falsone, K. Margellos, S. Garatti, and M. Prandini, "Finite time distributed averaging over gossip-constrained ring networks", *IEEE Transactions on Control of Network Systems*, vol. 5, no. 3, pp. 879–887, Sep. 2018. DOI: 10.1109/TCNS.2017.2653418.

[J13] K. Margellos, A. Falsone, S. Garatti, and M. Prandini, "Distributed constrained optimization and consensus in uncertain networks via proximal minimization", *IEEE Transactions on Automatic Control*, vol. 63, no. 5, pp. 1372–1387, May 2018. DOI: 10.1109/TAC.2017.2747505.

[J14] A. Brankovic, A. Falsone, M. Prandini, and L. Piroddi, "A feature selection and classification algorithm based on randomized extraction of model populations", *IEEE Transactions on Cybernetics*, vol. 48, no. 4, pp. 1151–1162, April 2018. DOI: 10.1109/TCYB.2017.2682418.

[J15] A. Falsone, K. Margellos, S. Garatti, and M. Prandini, "Dual decomposition for multi-agent distributed optimization with coupling constraints", *Automatica*, vol. 84, pp. 149–158, October 2017. DOI: 10.1016/j.automatica.2017.07.003.

[J16] A. Falsone and M. Prandini, "A randomized approach to probabilistic footprint estimation of a space debris uncontrolled reentry", *IEEE Transactions on Intelligent Transportation Systems*, vol. 18, no. 10, pp. 2657–2666, October 2017. DOI: 10.1109/TITS.2017.2654511.

[J17] F. Bianchi, A. Falsone, M. Prandini, and L. Piroddi, "A randomised approach for NARX model identification based on a multivariate Bernoulli distribution", *International Journal of Systems Science*, vol. 48, no. 6, pp. 1203–1216, May 2017. DOI: 10.1080/00207721.2016.1244309.

[J18] A. Falsone, L. Piroddi, and M. Prandini, "A randomized algorithm for nonlinear model structure selection", *Automatica*, vol. 60, pp. 227–238, October 2015. DOI: 10.1016/j.automatica.2015.07.023.

International Conferences

[C1] A. Falsone, K. Margellos, J. Zizzo, M. Prandini, and S. Garatti, "New results on resource sharing problems with random agent arrivals and an application to economic dispatch in power systems", in *Proceedings of the 60th Conference on Decision and Control (CDC 2021), Austin, Texas, USA*, Submitted, December 2021.

[C2] F. Bianchi, A. Falsone, L. Piroddi, and M. Prandini, "An alternating optimization method for switched linear systems identification", in *Proceedings of the 21st World Congress of the International Federation of Automatic Control (IFAC 2020), Berlin, Germany*, vol. 53, Jul. 2020, pp. 1071–1076. DOI: 10.1016/j.ifacol.2020.12.1297.

[C3] A. Falsone, K. Margellos, M. Prandini, and S. Garatti, "A scenario-based approach to multi-agent optimization with distributed information", in *Proceedings of the 21st World Congress of the International Federation of Automatic Control (IFAC 2020), Berlin, Germany*, vol. 53, Jul. 2020, pp. 20–25. DOI: 10.1016/j.ifacol.2020.12.034.

[C4] A. Falsone, I. Notarnicola, G. Notarstefano, and M. Prandini, "Combining ADMM and tracking over networks for distributed constraint-coupled optimization", in *Proceedings of the 21st World Congress of the International Federation of Automatic Control (IFAC 2020), Berlin, Germany*, vol. 53, Jul. 2020, pp. 2654–2659. DOI: 10.1016/j.ifacol.2020.12.380.

[C5] A. Falsone, B. Sakcak, and M. Prandini, "Coordinated lane change in autonomous driving: A computationally aware solution", in *Proceedings of the 21st World Congress of the International Federation of Automatic Control (IFAC 2020), Berlin, Germany*, vol. 53, Jul. 2020, pp. 15 211–15 216. DOI: 10.1016/j.ifacol.2020.12.2302.

[C6] D. Ioli, A. Falsone, A. Busboom, and M. Prandini, "A micro-grid energy management strategy integrating photovoltaic energy prediction", in *Proceedings of the 21st World Congress of the International Federation of Automatic Control (IFAC 2020), Berlin, Germany*, vol. 53, Jul. 2020, pp. 13 012–13 017. DOI: 10.1016/j.ifacol.2020.12.2163.

[C7] A. Falsone, F. Molinari, and M. Prandini, "Uncertain multi-agent MILPs: A data-driven decentralized solution with probabilistic feasibility guarantees", in *Proceedings of the 2nd Conference on Learning for Dynamics and Control*, vol. 120, Jun. 2020, pp. 1000–1009.

[C8] F. Bianchi, A. Falsone, M. Prandini, and L. Piroddi, "Nonlinear system identification with model structure selection via distributed computation", in *Proceedings of the 58th Conference on Decision and Control (CDC 2019), Nice, France*, December 2019, pp. 6461–6466. DOI: 10.1109/CDC40024.2019.9029492.

[C9] V. Causevich, A. Falsone, D. Ioli, and M. Prandini, "Energy management in a multi-building set-up via distributed stochastic optimization", in *Proceedings of the 2018 American Control Conference (ACC 2018), Milwaukee, Wisconsin, USA*, Jun. 2018, pp. 5387–5392. DOI: 10.23919/ACC.2018.8431043.

[C10] A. Falsone, L. Deori, D. Ioli, S. Garatti, and M. Prandini, "Optimally shaping the stationary distribution of a constrained discrete time stochastic linear system via disturbance compensation", in *Proceedings of the 56th Conference on Decision and Control (CDC 2017), Melbourne, Australia*, December 2017, pp. 629–634. DOI: 10.1109/CDC.2017.8263731.

[C11] A. Falsone, K. Margellos, S. Garatti, and M. Prandini, "Linear programs for resource sharing among heterogeneous agents: The effect of random agent arrivals", in *Proceedings of the 56th Conference on Decision and Control (CDC 2017), Melbourne, Australia*, December 2017, pp. 3853–3858. DOI: 10.1109/CDC.2017.8264226.

[C12] G. Manganini, A. Falsone, J. Siroky, and M. Prandini, "A data-based approach to power capacity optimization", in *Proceedings of the 56th Conference on Decision and Control (CDC 2017), Melbourne, Australia*, December 2017, pp. 1663–1668. DOI: 10.1109/CDC.2017.8263889.

[C13] S. Mutti, A. Falsone, K. Margellos, and M. Prandini, "A proximal minimization based distributed approach to power control in wireless networks: Performance and comparative analysis", in *Proceedings of the 56th Conference on Decision and Control (CDC 2017), Melbourne, Australia*, December 2017, pp. 3513–3518. DOI: 10.1109/CDC.2017.8264174.

[C14] D. Ioli, L. Deori, A. Falsone, and M. Prandini, "A two-layer decentralized approach to the optimal energy management of a building district with a shared thermal storage", in *Proceedings of the 20th World Congress of the International Federation of Automatic Control (IFAC 2017), Toulouse, France*, vol. 50, Jul. 2017, pp. 8844–8849. DOI: 10.1016/j.ifacol.2017.08.1540.

[C15] D. Ioli, A. Falsone, M. Hartung, A. Busboom, and M. Prandini, "A smart grid energy management problem for data-driven design with probabilistic reachability guarantees", in *Proceedings of the 4th International Workshop on Applied Verification for Continuous and Hybrid Systems (ARCH 2017), Pittsburgh, Pennsylvania, USA*, April 2017, pp. 2–19. DOI: 10.29007/5qvt.

[C16] A. Falsone, K. Margellos, S. Garatti, and M. Prandini, "Distributed constrained convex optimization and consensus via dual decomposition and proximal minimization", in *Proceedings of the 55th Conference on Decision and Control (CDC 2016), Las Vegas, Nevada, USA*, December 2016, pp. 1889–1894. DOI: 10.1109/CDC.2016.7798540.

[C17] C. Brocchini, A. Falsone, G. Manganini, O. Holub, and M. Prandini, "A chance-constrained approach to the quantized control of a heat ventilation and air conditioning system with prioritized constraints", in *Proceedings of the 22nd International Symposium on Mathematical Theory of Networks and Systems (MTNS 2016), Minneapolis, Minnesota, USA*, Jul. 2016, pp. 137–144.

[C18] D. Ioli, A. Falsone, and M. Prandini, "Energy management of a building cooling system with thermal storage: A randomized solution with feedforward disturbance compensation", in *Proceedings of the 2016 American Control Conference (ACC 2016), Boston, Massachusetts, USA*, Jul. 2016, pp. 2346–2351. DOI: 10.1109/ACC.2016.7525268.

[C19] K. Margellos, A. Falsone, S. Garatti, and M. Prandini, "Proximal minimization based distributed convex optimization", in *Proceedings of the 2016 American Control Conference (ACC 2016), Boston, Massachusetts, USA*, Jul. 2016, pp. 2466–2471. DOI: 10.1109/ACC.2016.7525287.

[C20] D. Ioli, A. Falsone, S. Schuler, and M. Prandini, "A compositional framework for energy management of a smart grid: A scalable stochastic hybrid model for cooling of a district network", in *Proceedings of the 12th IEEE International Conference on Control and Automation (ICCA 2016), Kathmandu, Nepal*, Jun. 2016, pp. 389–394. DOI: 10.1109/ICCA.2016.7505308.

[C21] K. Margellos, A. Falsone, S. Garatti, and M. Prandini, "Constrained optimal control of stochastic switched affine systems using randomization", in *Proceedings of the 2016 European Control Conference (ECC 2016), Aalborg, Denmark*, Jun. 2016, pp. 2559–2554. DOI: 10.1109/ECC.2016.7810675.

[C22] D. Ioli, A. Falsone, and M. Prandini, "An iterative scheme to hierarchically structured optimal energy management of a microgrid", in *Proceedings of the 54th Conference on Decision and Control (CDC 2015), Osaka, Japan*, December 2015, pp. 5227–5232. DOI: 10.1109/CDC.2015.7403037.

[C23] G. Manganini, A. Falsone, and M. Prandini, "A majority voting classifier with probabilistic guarantees", in *Proceedings of the 2015 Conference on Control Applications (CCA 2015), Sydney, Australia*, Sep. 2015, pp. 1084–1089. DOI: 10.1109/CCA.2015.7320757.

[C24] D. Caporale, L. Deori, R. Mura, A. Falsone, R. Vignali, L. Giulioni, M. Pirotta, and G. Manganini, "Optimal control to reduce emissions in gasoline engines: An iterative learning control approach for ECU calibration maps improvement", in *Proceedings of the 2015 European Control Conference (ECC 2015), Linz, Austria*, Jul. 2015, pp. 1420–1425. DOI: 10.1109/ECC.2015.7330738.

[C25] A. Falsone and M. Prandini, "An iterative scheme for the approximate linear programming solution to the optimal control of a Markov Decision Process", in *Proceedings of the 2015 European Control Conference (ECC 2015), Linz, Austria*, Jul. 2015, pp. 1200–1205. DOI: 10.1109/ECC.2015.7330703.

[C26] D. Ioli, A. Falsone, and M. Prandini, "Optimal energy management of a building cooling system with thermal storage: A convex formulation", in *Proceedings of the 9th IFAC Symposium on Advanced Control of Chemical Processes (ADCHEM 2015), Whistler, British Columbia, Canada*, vol. 48, Jun. 2015, pp. 1150–1155. DOI: 10.1016/j.ifacol.2015.09.123.

[C27] A. Falsone, L. Piroddi, and M. Prandini, "A novel randomized approach to nonlinear system identification", in *Proceedings of the 53rd Conference on Decision and Control (CDC 2014), Los Angeles, USA*, December 2014, pp. 6516–6521. DOI: 10.1109/CDC.2014.7040411.

[C28] A. Falsone, F. Noce, and M. Prandini, "A randomized approach to space debris footprint characterization", in *Proceedings of the 19th World Congress of the International Federation of Automatic Control (IFAC 2014), Cape Town, South Africa*, vol. 47, August 2014, pp. 6895–6900. DOI: 10.3182/20140824-6-ZA-1003.00612.

December 9, 2021

I hereby authorize the use of my personal details according to the Italian Legislative Decree n° 196/2003