

ALESSANDRO FARINELLI

CURRICULUM VITAE

DATI PERSONALI

Data di Nascita: 18 Giugno, 1976

Incarico Attuale: Professore Ordinario, SSD: INF/01

Istituzione: Università degli Studi di Verona, Dipartimento di Informatica

CONTATTI

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SOMMARIO

Alessandro Farinelli è professore ordinario presso l'Università di Verona e Direttore del Dipartimento di Informatica.

I suoi interessi di ricerca si concentrano sullo sviluppo di nuove metodologie per sistemi di Intelligenza Artificiale applicati alla robotica. In particolare, si concentra sul coordinamento multi-agente, ottimizzazione decentralizzata, apprendimento per rinforzo e analisi dei dati per sistemi ciber-fisici.

Alessandro Farinelli è stato responsabile della ricerca per numerosi progetti di ricerca nazionali e internazionali nell'area dell'Intelligenza Artificiale. I suoi contributi di ricerca si rivolgono principalmente a riviste internazionali nell'area dell'Intelligenza Artificiale (ad esempio, Artificial Intelligence journal e Journal of Artificial Intelligence Research) e dei Sistemi Robotici Autonomi (Autonomous Robots and Robotics and Autonomous Systems). Tra i principali convegni scientifici a cui contribuisce (sia come organizzatore che come relatore) figurano la International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), la International Joint Conference on Artificial Intelligence (IJCAI) e la International Conference on Intelligent Robots and Systems (IROS).

FORMAZIONE E INCARICHI

Incarichi

2021-	Direttore del Dipartimento di Informatica dell'Università di Verona.
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2019-	Professore Ordinario presso il Dipartimento di Informatica dell'Università di Verona, SSD INF/01.
2014–2019	Professore Associato presso il Dipartimento di Informatica, Università degli Studi di Verona, SSD INF/01.
2008–2014	Ricercatore Universitario presso il Dipartimento di Informatica, Università degli Studi di Verona, SSD INF/01.
2008	Titolare di contratto come Research Fellow presso il dipartimento ECS (Electronic and Computer Science) dell'Università di Southampton (UK), nel gruppo del Prof. N. R. Jennings per il progetto “Control and Management of Autonomous Mobile Sensors” finanziato da SEAS DTC, responsabile del progetto Prof. N. R. Jennings e Dr. Alex Rogers; Periodo: Luglio 2008–Dicembre 2008.
2007–2008	Titolare di contratto come Research Fellow presso il dipartimento ECS (Electronic and Computer Science) dell'Università di Southampton (UK), nel gruppo del Prof. N. R. Jennings per il progetto “Market Based Control of Complex Computational Systems” finanziato da Engineering and Physical Sciences Research Council (EPSRC), responsabile del progetto Prof. N. R. Jennings; Periodo: Aprile 2007–Luglio 2008.
2005–2007	Assegno di ricerca post-doc della durata di due anni per il progetto <i>An integrated framework for situation assessment and task assignment in real rescue scenarios</i> . Supervisore della ricerca: Prof. Daniele Nardi; Periodo Aprile 2005–Aprile 2007.

Formazione

2005	Dottorato in Ingegneria Informatica presso il Dipartimento Informatica e Sistemistica (DIS) presso l'Università di Roma <i>La Sapienza</i> . Tesi dal titolo: Distributed Task Assignment for Real World Environments.
2001–2004	Studente di dottorato (con borsa ministeriale) presso il Dipartimento di Informatica e Sistemistica, Università di Roma <i>La Sapienza</i> .
2001	Laurea in Ingegneria Informatica (5 anni) voto 110/110 cum Laude presso l'Università di Roma <i>La Sapienza</i> . Tesi dal titolo: Tecniche di pianificazione delle traiettorie in ambiente dinamico.
1995	Maturità Scientifica, presso il Liceo Scientifico G. B. Morgagni, voto: 60/60

ATTIVITÀ DI RICERCA

Premi e Riconoscimenti per l'attività scientifica

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| 2023 | <i>Nomina come miglior paper</i> per 22nd International Conference on Autonomous Agents and Multi-Agent Systems (AA-MAS) 2023, London, UK, titolo del paper: “Learning Logic Specifications for Soft Policy Guidance in POMCP”, Mazzi G., Meli D., Castellini A., Farinelli A. |
| 2018 | <i>Nomina come miglior paper</i> per 15th International Conference on Intelligent Autonomous Systems, Baden-Baden, Germany, Titolo contributo: “Deep Learning Waterline Detection for Low-cost Autonomous Boats”, Steccanella L., Bloisi D., Blum J., Farinelli A. |
| 2018 | <i>Miglior poster</i> per 33rd ACM Symposium on Applied Computing (SAC), Pau, France, Poster title: “Unsupervised Activity Recognition for Autonomous Water Drones”, Castellini A., Beltrame G., Bicego M., Blum J., Denitto M., Farinelli A. |
| 2015 | <i>Nomination as best paper in Innovative Applications Track</i> at International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS) 2015, Istanbul, Turkey, Paper title: “A Mechanism for Smoothly Handling Human Interrupts in Team Oriented Plans”, A. Farinelli, N. Marchi, M.M. Raeissi, N. Brooks, P. Scerri. |
| 2008 | Premio <i>Best Industrial Demo</i> alla conferenza internazionale AAMAS 2008, Estoril, Portogallo, per il dimostratore: “Max-Sum Decentralised Coordination for Sensor Systems” W. T. L. Teacy, A. Farinelli, N. J. Grabham, P. Padhy, A. Rogers, N. R. Jennings. |
| 2007 | vincitore RoboCup Rescue Infrastructure competition con la squadra Aladdin Rescue, University of Southampton UK. Componenti della squadra: Alessandro Farinelli, Sarvapali Ramchurn, Perukrishnen Vytelingum, Ioannis Vetsikas |

Progetti di ricerca – Responsabile Scientifico

Pogetti nazionali ed internazionali finanziati a seguito di bandi competitivi e revisione tra pari

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| 2024-2027 | <u>Title</u> : Sviluppo di tecnologie basate su metodi di Intelligenza Artificiale per il rilascio controllato di farmaci a base peptidica. (DigiSprayDrying); <u>Finanziato da</u> : MIMIT (Ministero dell’Industria e del Made in Italy); <u>Durata del Progetto</u> : 36 mesi; <u>Ruolo</u> : Responsabile della ricerca per l’unità di |
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ricerca dell'Università di Verona, €300K. Il progetto finanzia due Assegni di Ricerca (AdR) per 36 mesi ciascuno.

- 2020-2021 Titolo:Controllo intelligente per sistemi di riscaldamento tramite tecniche di apprendimento per rinforzo; Finanziato da: Università di Verona (Joint projects, schema di cooperazione con partner industriali), partner industriale: Giordano controls s.p.a.; Durata del progetto: 12 mesi; Ruolo: Responsabile della ricerca €160K (Contributo Università: €80K). Il progetto ha finanziato due borse di ricerca (BdR) per 12 months ed altre due borse di ricerca (BdR) per 6 mesi.
- 2017-2018 Titolo: Active Malware Analysis based on Reinforcement Learning echniques (SECUR-AMA). Finanziato da: University of Verona (Joint projects, cooperation scheme with industrial partners), Industrial partner: Cythereal Inc.) Durata: 18 mesi Ruolo: Responsabile della ricerca, €76K.
- 2016-2020 Titolo: Development and application of Novel, Integrated Tools for monitoring and managing Catchments (INTCATCH); finanziato da: EU, H2020, WATER-1-2014/2015; durata progetto: 48 mesi; Ruolo: responsabile scientifico per l'unita' di ricerca su IA e robotica del dipartimento di Informatica, Univ. di Verona, WP leader (WP4) e direttore tecnico del progetto, €8.7 M (€370 K per l'unita' di ricerca coordinata).
- 2013-2014 Titolo: Controllo automatico di processo per risparmio energetico e recupero di risorse dalle acque reflue; in collaborazione con INNOVen s.r.l. e EDALab s.r.l. Finanziato da: Regione Veneto (Fondo Sociale Europeo) Durata: 12 mesi (Attivazione di 2 Assegni di Ricerca di 12 mesi ciascuno) Ruolo: Responsabile Scientifico del progetto, €71000.

Pogetti nazionali ed internazionali finanziati a seguito di bandi competitivi e revisione tra pari

- 2022-2023 Title: Analisi comparativa di soluzioni basate su algoritmi evolutivi per VRP generalizzato e multi-obiettivo, nell'ambito del progetto AIDESS (L.P. n. 6 del 1999 della Provincia di Trento); Finanziato da: HPA S.p.A.; Ruolo: Responsabile della ricerca, €20K. Il progetto ha finanziato un Borsa di Ricerca (BdR) per 8 mesi.
- 2022-2023 Title: Sviluppo di metodi di Intelligenza Artificiale per supporto vendita polizze assicurative; Finanziato da: REVO Insurance S.p.A.; Ruolo: Responsabile della ricerca, €63K. Il progetto ha finanziato due Borse di Ricerca (BdR) per 11 mesi ciascuna.
- 2017-2018 Title: Analisi dei dati e controllo di alto livello per droni acquatici autonomi; Finanziato in parte da: Computer Science

	Department, University of Verona, 2017; <u>Ruolo</u> : Responsabile della ricerca, €23.5 K (Contributo del Dipartimento €7.936 K). Il progetto ha finanziato un assegno di ricerca (AdRm INF/01) per 12 mesi.
2016-2017	<u>Titolo</u> : Analisi e acquisizione dati per il monitoraggio dell'acqua tramite piattaforme robotiche; <u>Finanziato in parte da</u> : Dipartimento di Informatica, Università di Verona, 2017; <u>Ruolo</u> : Responsabile della ricerca, €23.5 K (Contributo dipartimento €11.75 K). Il progetto ha finanziato un AdR, INF/01 per 12 mesi.
2015-2016	<u>Titolo</u> : Sviluppo di modelli e tecniche di Intelligenza Artificiale per la mobilità sostenibile; <u>Finanziato in parte da</u> : Dipartimento di Informatica, Università di Verona, 2015; <u>Ruolo</u> : Responsabile della ricerca, €24 K (Contributo dipartimento €22 K). Il progetto ha finanziato un AdR, INF/01 per 12 mesi.
2012-2013	<u>Title</u> : Coordinamento multi-agente per reti di sensori intelligenti; <u>Finanziato in parte da</u> : Dipartimento di Informatica, Università di Verona, 2012; <u>Ruolo</u> : Responsabile della ricerca, €19 K. Il progetto ha finanziato un AdR, ING-INF/05, per 12 mesi.
2011-2012	<u>Title</u> : RMAStBench: Benchmarking Dynamic Multi-Agent Coordination in Urban Search and Rescue; insieme a Linköping University e University of Southampton; <u>Finanziato da</u> : RoboCup Federation, 2012; <u>Ruolo</u> : Responsabile dell'unità di ricerca locale, <u>durata</u> : 12 mesi, US\$ 3.9 K.
2005-2007	<u>Titolo</u> : An integrated framework for situation assessment and task assignment in real rescue scenarios <u>Finanziato da</u> : EOARD (European Office of Aerospace Research and Development, Award No. FA8655-05-1-3015) <u>Durata</u> : 24 mesi, Co-Responsabile della ricerca insieme al Prof. Daniele Nardi, US\$ 74000.

Progetti di ricerca – Collaboratore alla ricerca

2019-2020	<u>Titolo</u> : ROS-based design and synthesis of monitors for semi-formal verification of robotics applications; <u>Finanziato da</u> : Istituto Nazionale di Alta Matematica (INdAM); <u>Ruolo</u> : supervisione allo sviluppo delle tecniche per il coordinamento multi-robot; <u>durata del progetto</u> : 12 months.
2019-2020	<u>Titolo</u> : Model-Based Design and Verification Flow for Embedded Vision Applications; <u>Finanziato da</u> : Istituto Nazionale di Alta Matematica (INdAM); <u>Ruolo</u> : supervisione allo sviluppo delle tecniche di Simultaneous Localization And Mapping

	(SLAM) che possono operare su dispositivi dedicati con basse capacità computazionali e di memoria; <u>Durata del progetto:</u> 12 mesi.
2018-2022	<u>Titolo:</u> Progetto di eccellenza: Informatica per Industria 4.0; <u>Finanziato da:</u> Ministero dell'Istruzione dell'Università e della Ricerca (MIUR), Dipartimenti di Eccellenza; <u>Ruolo:</u> co-supervisor (insieme a Paolo Fiorini) per le attività relative allo sviluppo di sistemi robotici intelligenti per l'Industria 4.0 (Tecnologia Abilitante 1: Soluzioni per la manifattura avanzata); <u>Durata del progetto:</u> 60 mesi.
2017-2020	<u>Titolo:</u> Global House Thermal & Electrical Energy Management (GHOTEM); <u>Finanziato da:</u> Regione Veneto (POR - Obiettivo "Incremento dell'attività di innovazione delle imprese" Parte FESR fondo europeo di sviluppo regionale 2014-2020); <u>Ruolo:</u> supervisione di un Assegno di Ricerca (AdR, 12 mesi) su tematiche relative allo sviluppo di metodi di analisi dei dati basati su Intelligenza Artificiale per la gestione dell'energia nelle smart grid; <u>Durata del progetto:</u> 36 mesi.
2017-2020	<u>Title:</u> "Riposizionamento Competitivo della filiera del legno" (COREWOOD); <u>Finanziato da:</u> Regione Veneto (POR - Obiettivo "Incremento dell'attività di innovazione delle imprese" Parte FESR fondo europeo di sviluppo regionale 2014-2020); <u>Ruolo:</u> supervisione di un Assegno di Ricerca (AdR, 18 mesi) su tematiche relative allo sviluppo di metodi di analisi dei dati basati su Intelligenza Artificiale per la gestione dell'energia negli edifici intelligenti (smart buildings); <u>Durata del progetto:</u> 36 months.
2016-2018	<u>Titolo:</u> EXPO-AGRI: EXtra-field Plant Observation for monitoring and forecast of agricultural infections; <u>Finanziato da:</u> Regione Veneto (Fondo Sociale Europeo), 2015; <u>Ruolo:</u> coordinamento e responsabilità scientifica delle attività relative all'Intelligenza Artificiale; <u>Durata Progetto:</u> 24 mesi.
2008-2009	<u>Titolo:</u> Control and Management of Autonomous Mobile Sensors; <u>Finanziato da:</u> SEAS DTC (Systems Engineering for Autonomous Systems Defence Technology Centre, UK, Contract No. C/WPE/N03751); <u>Durata:</u> 30 mesi.
2005-2009	<u>Titolo:</u> Market Based Control of Complex Computational Systems <u>Finanziato da:</u> EPSRC (Engineering and Physical Sciences Research Council - EPSRC Reference GR/T10664/01) <u>Durata:</u> 60 mesi.
2003-2005	<u>Titolo:</u> Sistemi di simulazione e robotici per l'intervento in scenari di emergenze <u>Finanziato da:</u> MIUR (2003 - prot. 2003097252) <u>Durata:</u> 24 mesi.

2003-2006 Titolo: RoboCare Finanziato da: MIUR (2002 - Progetto strategico legge 449/97) Durata: 36 mesi.

Visite presso istituti di ricerca

2008-2009 Visita presso il gruppo del Prof. N. R. Jennings, dipartimento ECS (Electronic and Computer Science) dell'Università di Southampton, UK; Periodo: Dicembre 2008-Maggio 2009.

2003-2004 Visita presso il Teamcore Research Group, responsabile Prof. Milind Tambe, University of Southern California, Los Angeles, CA, USA; Periodo: Novembre 2003-Giugno 2004.

Collaborazioni Nazionali ed Internazionali

Delft, NL Collaborazione con Delft University of Technology, Olanda. Collaboratore principale: Matthijs Spaan

Chania, GR Collaborazione con Technical University of Crete (TUC). Collaboratore principale: Prof. Georgios Chalkiadakis.

USRA, US Accordo di ricerca con Universities Space Research Association (USRA) per l'uso della macchina quantistica (D-Wave). Collaboratore principale: Dr. Davide Venturelli.

Barcelona, ES Collaborazione con IIA-CSIC, Collaboratori principali: Dr. Juan-Antonio Rodriguez Aguilar, Dr. Jesus Cerquides Bueno, Dr. Pedro Meseguer.

Bar Ilan, IL Industrial Engineering and Management, Ben Gurion University of the Negev. Collaboratori principali: Dr. Roie Zivan, Dr. Harel Yedidsion

California, US TEAMCORE research group, University of Southern California. Collaboratori principali: Prof. Milind Tambe.

Minneapolis, US College of Science and Engineering, University of Minnesota. Collaboratori principali: Prof. Maria Gini.

Pittsburgh, US Robotic Institute, Carnegie Mellon University. Collaboratori principali: Dr. Paul Scerri.

Padova, IT Intelligent Autonomous System Laboratory (IAS-Lab), Dipartimento di Ingegneria dell'Informazione (DEI), Università degli studi di Padova. Collaboratori principali: Prof. Enrico Pagello, Prof. Emanuele Menegatti.

Roma, IT Dipartimento di Ingegneria Informatica, Automatica e Gestionale (DIAG), Sapienza Università di Roma. Collaboratori principali: Prof. Daniele Nardi, Prof. Luca Iocchi.

Southampton, UK Accordo di cooperazione con l'Università di Southampton per lo scambio di Studenti di Dottorato, Post-Doc e ricercatori.

Southampton, UK Collaborazioni scientifiche con Agents, Interaction and Complexity Group, Electronics and Computer Science (ECS), Faculty of Physical Sciences and Engineering. Collaboratori principali: Dr. Sarvapali Ramchurn, Dr. Alex Rogers, Prof. Nick Jennings.

Pubblicazioni

Per le riviste internazionali si riporta la classificazione secondo Scimago¹, indicando anche la categoria disciplinare. La classificazione riportata si riferisce all'anno di pubblicazione. Per le pubblicazioni del 2024 viene riportato l'ultimo dato disponibile (ovvero 2023).

Indicatori bibliometrici

Indicatori bibliometrici calcolati utilizzando google scholar e scopus (ultimo aggiornamento maggio 2024)

	Google Scholar	Scopus
Numero di pubblicazioni	292	205
H-index	35	25
Numero di citazioni	5799	3044

LISTA PUBBLICAZIONI

Riviste Internazionali

- [R.1] Meli, D., Castellini, A., Farinelli, A. Learning Logic Specifications for Policy Guidance in POMDPs: an Inductive Logic Programming Approach (2024) *Journal of Artificial Intelligence Research*; (**Q1, Artificial Intelligence**); doi: 10.1613/jair.1.15826
- [R.2] Fenoy, A., Bistaffa, F., Farinelli, A. An attention model for the formation of collectives in real-world domains (2024) *Artificial Intelligence* (**Q1, Artificial Intelligence**); doi: 10.1016/j.artint.2023.104064.
- [R.3] Castellini, A., Masillo, F., Azzalini, D., Amigoni, F., Farinelli, A. Adversarial Data Augmentation for HMM-Based Anomaly Detection (2023) *IEEE Transactions on Pattern Analysis and Machine Intelligence* (**Q1, Artificial Intelligence**), 45(12), 2023, 10.1109/TPAMI.2023.3303099.
- [R.4] Mazzi, G., Castellini, A., Farinelli, A. Risk-aware shielding of Partially Observable Monte Carlo Planning policies (2023) *Artificial Intelligence* (**Q1, Artificial Intelligence**), 324, 2023, doi: 10.1016/j.artint.2023.103987.
- [R.5] Zuccotto, M., Piccinelli, M., Castellini, A., Marchesini, E., Farinelli, A. Learning State-Variable Relationships in POMCP: A Framework for Mobile Robots. (2022) *Frontiers in Robotics and AI* (**Q2, Artificial Intelligence**), 2022, doi: 10.3389/frobt.2022.819107.

¹<https://www.scimagojr.com/>

- [R.6] Castellini, A., Bianchi, F., Farinelli, A. Generation and interpretation of parsimonious predictive models for load forecasting in smart heating networks (2022) *Applied Intelligence* (**Q2, Artificial Intelligence**), 52(9), 2022, doi: 10.1007/s10489-021-02949-4.
- [R.7] Bistaffa, F., Chalkiadakis, G., Farinelli, A. Efficient Coalition Structure Generation via Approximately Equivalent Induced Subgraph Games (2022) *IEEE Transactions on Cybernetics* (**Q1, Computer Science Applications**), 52(6), 2022, doi: 10.1109/TCYB.2020.3040622.
- [R.8] Bistaffa, F., Blum, C., Cerquides, J., Farinelli, A., Rodriguez-Aguilar, J.A. A Computational Approach to Quantify the Benefits of Ridesharing for Policy Makers and Travellers (2021) *IEEE Transactions on Intelligent Transportation Systems* (**Q1, Computer Science Applications**), 22 (1), art. no. 8917688, pp. 119-130, doi: 10.1109/TITS.2019.2954982.
- [R.9] Denitto, M., Bicego, M., Farinelli, A., Vascon, S., Pelillo, M. Biclustering with dominant sets (2020) *Pattern Recognition* (**Q1, Artificial Intelligence**), 104, art. no. 107318, doi: 10.1016/j.patcog.2020.107318.
- [R.10] Castellini, A., Bicego, M., Masillo, F., Zuccotto, M., Farinelli, A. Time series segmentation for state-model generation of autonomous aquatic drones: A systematic framework (2020) *Engineering Applications of Artificial Intelligence* (**Q1, Artificial Intelligence**), 90, art. no. 103499, doi: 10.1016/j.engappai.2020.103499.
- [R.11] Steccanella, L., Bloisi, D.D., Castellini, A., Farinelli, A. Water-line and obstacle detection in images from low-cost autonomous boats for environmental monitoring (2020) *Robotics and Autonomous Systems* (**Q1, Computer Science Applications**), 124, art. no. 103346, doi: 10.1016/j.robot.2019.103346.
- [R.12] Sarteau, R., Farinelli, A., Murari, M. SECUR-AMA: Active Malware Analysis Based on Monte Carlo Tree Search for Android Systems (2020) *Engineering Applications of Artificial Intelligence* (**Q1, Artificial Intelligence**), 87, art. no. 103303, doi: 10.1016/j.engappai.2019.103303.
- [R.13] Raeissi, M. M., Farinelli, A. Cooperative Queuing Policies for Effective Scheduling of Operator Intervention. *Autonomous Robots* (**Q1, Artificial Intelligence**), 44 (3-4)(first online: 15 July 2019), pp. 617-626, ISSN: 0929-5593, 2020, doi:10.1007/s10514-019-09877-w .
- [R.14] Bottarelli, L., Bicego, M., Blum, J., Farinelli, A. Orienteering-based informative path planning for environmental monitoring. *Engineering Applications of Artificial Intelligence* (**Q1, Artificial Intelligence**), 77, pp. 46-58, ISSN: 0952-1976, 2019, doi:10.1016/j.engappai.2018.09.015
- [R.15] Bistaffa, F., Farinelli, A. A COP model for graph-constrained coalition formation. *Journal of Artificial Intelligence Research* (**Q1, Artificial Intelligence**), 62, pp. 133-153, ISSN: 1076-9757, 2018, doi:10.1613/jair.1.11205

- [R.16] Yedidsion, H., Zivan, R., Farinelli, A. Applying max-sum to teams of mobile sensing agents. *Engineering Applications of Artificial Intelligence* (**Q1, Artificial Intelligence**), 71, pp. 87-99, ISSN: 0952-1976, 2018, doi:10.1016/j.engappai.2018.02.017
- [R.17] Bottarelli, L., Bicego, M., Denitto, M., Di Pierro, A., Farinelli, A., Mengoni, R. Biclustering with a quantum annealer. *Soft Computing* (**Q2, Theoretical Computer Science**), 22 (18), pp. 6247-6260, ISSN: 1432-7643, 2018, doi:10.1007/s00500-018-3034-z
- [R.18] Parker, J., Farinelli, A., Gini, M. Lazy max-sum for allocation of tasks with growing costs. *Robotics and Autonomous Systems* (**Q1, Computer Science Applications**), 110, pp. 44-56, ISSN: 0921-8890, 2018, doi:10.1016/j.robot.2018.08.015
- [R.19] Bicego, M., Farinelli, A., Grosso, E., Paolini, D., Ramchurn, S. D. On the distinctiveness of the electricity load profile. *Pattern Recognition*, (**Q1, Artificial Intelligence**), 74, pp. 317-325, ISSN: 0031-3203, 2018, doi:10.1016/j.patcog.2017.09.039
- [R.20] Denitto, M., Farinelli, A., Figueiredo, M. A. T., Bicego, M. A biclustering approach based on factor graphs and the max-sum algorithm. *Pattern Recognition* (**Q1, Artificial Intelligence**), 62, pp. 114-124, ISSN: 0031-3203, 2017, doi:10.1016/j.patcog.2016.08.033
- [R.21] Bistaffa, F., Farinelli, A., Chalkiadakis, G., Ramchurn, S. D. A cooperative game-theoretic approach to the social ridesharing problem. *Artificial Intelligence* (**Q1, Artificial Intelligence**), 246, pp. 86-117, ISSN: 0004-3702, 2017, doi:10.1016/j.artint.2017.02.004
- [R.22] A. Farinelli, M. Bicego, F. Bistaffa, S. D. Ramchurn. A hierarchical clustering approach to large-scale near-optimal coalition formation with quality guarantees. *Engineering Applications of Artificial Intelligence* (**Q1, Artificial Intelligence**), 59, pp. 170-185, ISSN: 0952-1976, 2017, doi:10.1016/j.engappai.2016.12.018
- [R.23] A. Farinelli, N. Boscolo, E. Zanutto, E. Pagello. Advanced approaches for multi-robot coordination in logistic scenarios. *Robotics and Autonomous Systems* (**Q1, Artificial Intelligence**), 90, pp. 34-44, ISSN: 0921-8890, 2017, doi:10.1016/j.robot.2016.08.010
- [R.24] F., Lezama, J., Palominos, A.Y., Rodríguez-González, A., Farinelli, E., Munoz de Cote. Agent-Based Microgrid Scheduling: An ICT Perspective. *Mobile Networks and Applications* (**Q1, Computer Networks and**

Communications), pp. 1-17, ISSN: 1383-469X, 2017, doi:10.1007/s11036-017-0894-x.

- [R.25] F. Bistaffa, A. Farinelli, J. Cerquides, J. Rodríguez-Aguilar, S. D. Ramchurn. Algorithms for graph-constrained coalition formation in the real world. *ACM Transactions on Intelligent Systems and Technology* (**Q1, Artificial Intelligence**), 8 (4), art. no. 60, pp. 1-24, ISSN: 2157-6904, 2017, doi:10.1145/3040967
- [R.26] F. Bistaffa, N. Bombieri, A. Farinelli. An Efficient Approach for Accelerating Bucket Elimination on GPUs. *IEEE Transactions on Cybernetics* (**Q1, Computer Science Applications**), 47 (11), pp. 3967-3979, ISSN: 2168-2267, 2017, doi:10.1109/TCYB.2016.2593773
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- [C.80] A. Chapman, A. Farinelli, J. E. Munoz De Cote Flores Luna, A. Rogers and N. R. Jennings. A Distributed Algorithm for Optimising over Pure Strategy Nash Equilibria. In *Proc. of Twenty-Fourth AAAI Conference on Artificial Intelligence (AAAI 2010)*, pp. 749-755, July, 2010 , Atlanta, Georgia, USA.
- [C.81] R. Stranders, A. Farinelli, A. Rogers, N. R. Jennings. Decentralised Coordination of Mobile Sensors Using the Max-Sum Algorithm. In *Proceedings of the 21st International Joint Conference on Artificial*

Intelligence (IJCAI), pp. 299-304, ISBN: 9781577354260, 2009.

- [C.82] R. Stranders, A. Farinelli, A. Rogers, N. R. Jennings. Decentralised Control of Continuously Valued Control Parameters using the Max-Sum Algorithm. In *Proceedings of 8th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2009)*, pp. 601-608, May 2009, Budapest.
- [C.83] G. P., Settembre, A. Farinelli, D. Nardi, R. Pigliacampo, M. Rossi. Solving disagreements in a Multi-Agent System performing Situation Assessment. In: *Proceedings of The International Conference on Information Fusion (IF-09)*, pp. 717-724, July, Seattle, WA, USA.
- [C.84] A. Farinelli, A. Rogers, A. Petcu, N. R. Jennings. Decentralised Coordination of Low-Power Embedded Devices Using the Max-Sum Algorithm. In *Proceedings of the International Joint Conferences on Autonomous and Agents and Multi Agent Systems (AAMAS)*, pp. 639-646, 2008.
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- [C.86] G. Settembre, P. Scerri, A. Farinelli, K. Sycara, D. Nardi. A Decentralized Approach to Cooperative Situation Assessment in Multi-Robot Systems. In *Proceedings of 7th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2008)*, Estoril, Portugal, pp 31-38, 2008.
- [C.87] A. Farinelli, P. Scerri, A. Ingenito, D. Nardi. Dealing with Perception Errors in Multi-Robot System Coordination. In *Proceedings of the Joint International Conference on Artificial Intelligence (IJCAI 2007)*, Hyderabad, India, pp 2091-2096, 2007.
- [C.88] A. Farinelli, A. Finzi, T. Lukasiewicz. Team Programming in Golog under Partial Observability. In *Proceedings of the Joint International Conference on Artificial Intelligence (IJCAI 2007)*, Hyderabad, India, pp 2097-2102, 2007.
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- [C.90] S. La Cesa, A. Farinelli, L. Iocchi, D. Nardi, M. Sbarigia, M. Zaratti. Semi-Autonomous Coordinated Exploration in Rescue Scenarios. In *RoboCup 2007: Robot Soccer World Cup XI*, pp. 286-293, 2008.
- [C.91] L. Fanelli, A. Farinelli, L. Iocchi, D. Nardi, G. P. Settembre. Ontology-based Coalition Formation in Heterogeneous MRS. In *Proceedings of International Symposium on Practical Cognitive Agents and Robots*, pp 105-116, Perth, Australia, 2007.

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- [C.93] A. Farinelli, L. Iocchi, D. Nardi. Conflict Resolution with Minimal Communication Bandwidth. In *Proc. of IEEE Workshop on Distributed Intelligent Systems*, Prague. pp. 7–12, Los Alamitos California (USA), ISBN: 0-7695-2589-X 2006.
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- [C.95] P. Scerri, A. Farinelli, S. Okamoto, and M. Tambe. Allocating Tasks in Extreme Teams. In *Proceedings of the 4th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 05)*, pp. 727–734, Utrecht, Netherland, ISBN: 1-59593-093-0 2005.
- [C.96] D. Calisi, A. Farinelli, L. Iocchi, and D. Nardi. Autonomous navigation and exploration in a rescue environment. In *Proceedings of the IEEE International Workshop on Safety, Security and Rescue Robotics (SSRR 2005)*, Kobe, Japan, June 2005.
- [C.97] P. Scerri, A. Farinelli, S. Okamoto, and M. Tambe. Token Approach for Role Allocation in Extreme Teams: analysis and experimental evaluation. In *Proc. of 13th IEEE International Workshops on Enabling Technologies: Infrastructures for Collaborative Enterprises (WETICE-2004)*., pp. 397–402, Modena; Italy. ISBN: 0-7695-2183-5, 2004.
- [C.98] F. Cottefogle, A. Farinelli, L. Iocchi, and D. Nardi. Dynamic token generation for constrained tasks in a Multi-Robot System. In *International Conference on Systems, Man and Cybernetics (SMC 2004)*, pp. 911–917, The Hague, The Netherlands, ISBN: 0-7803-8567-5 2004.
- [C.99] P. Scerri, A. Farinelli, S. Okamoto, and M. Tambe. Allocating roles in extreme team. In *Proceedings of the 3rd International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2004)*, pp. 1500–1501, New York, USA, 2004.
- [C.100] A. Farinelli, G. Grisetti, and L. Iocchi. Spqr-rdk: a modular framework for programming mobile robots. In *RoboCup 2004: Robot Soccer World Cup VIII*, pp. 653–660. ISBN: 3-540-25046-8 Springer Verlag Berlin, Heidelberg 2005.
- [C.101] A. Farinelli, G. Grisetti, L. Iocchi, S. Lo Cascio, and D. Nardi. Design and Evaluation of Multi Agent Systems for Rescue Operations. In *Proc. of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2003)*, pp. 3138–3143, Las Vegas, Nevada, ISBN:0-7803-7861-X (USA) 2003.

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- [C.103] A. Farinelli and L. Iocchi. Planning trajectories in dynamic environments using a gradient method. In *RoboCup 2003: Robot Soccer World Cup VII*, pp. 320–331. Springer Verlag Berlin, Heidelberg, 2004.
- [C.104] A. Farinelli, G. Grisetti, L. Iocchi, S. Lo Cascio, and D. Nardi. Robocup rescue simulation: Methodologies, tools and evaluation for practical applications. In *RoboCup 2003: Robot Soccer World Cup VII*, Padua, Italy, pp. 645–652. Springer Verlag Berlin, Heidelberg, 2004.
- [C.105] F. D’Agostino, A. Farinelli, G. Grisetti, L. Iocchi, and D. Nardi. Monitoring and Information Fusion for Search and Rescue Operations in Large-Scale Disasters. In *Proceedings of IEEE International Conference Information Fusion (IF 2002)*, pp. 672–679, AnnaPolis, Maryland, (USA), ISBN:0-9721844-0-6 July 2002.

Workshop Internazionali (con revisione)

- [W.1] Castellini, A., Blum, J., Bloisi, D., Farinelli, A. Intelligent battery management for aquatic drones based on task difficulty driven POMDPs. In *CEUR Workshop Proceedings*, 2352, pp. 1-5, 2019.
- [W.2] Denitto, M., Bicego, M., Farinelli, A., Pelillo, M. Dominant set biclustering. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 10746 LNCS, pp. 49-61, 2018.
- [W.3] Castellini, A., Beltrame, G., Bicego, M., Bloisi, D., Blum, J., Denitto, M., Farinelli, A. Activity recognition for autonomous water drones based on unsupervised learning methods. In *CEUR Workshop Proceedings*, 2054, pp. 16-21, 2017.
- [W.4] L. Steccanella, A., Farinelli, L., Iocchi, D., Nardi. Coloured Petri Net Plans for cooperative multi-robot systems. In *CEUR Workshop Proceedings*, 1834, pp. 51-55, 2017.
- [W.5] L. Bottarelli, M., Bicego, J., Blum, N., Bombieri, A., Farinelli, L., Veggian. Orienteering-based path selection for mobile sensors. In *CEUR Workshop Proceedings*, 1834, pp. 36-40, 2017.
- [W.6] A. Jeradi, M.M., Raeissi, A., Farinelli, N., Brooks, P., Scerri. Focused exploration for cooperative robotic watercraft. In *CEUR Workshop Proceedings*, vol. 1544, pp. 89–93, 2015.

- [W.7] A. Chapman, A. Farinelli, S. D. Ramchurn. Robust Distributed Constraint Optimization. In *International Joint Workshop on Optimisation in Multi-Agent Systems (OPTMAS 15)*, held in conjunction with AAMAS 2015.
- [W.8] J. Parker, A. Farinelli and M. Gini. Decentralized allocation of tasks with costs changing over time. In *Second Workshop on Synergies between Multiagent Systems, Machine Learning and Complex Systems (TRI 2015)*, held in conjunction with IJCAI 2015.
- [W.9] Marc Pujol-Gonzalez, Jesus Cerquides, Alessandro Farinelli, Pedro Meseguer and Juan Antonio Rodriguez Aguilar. Binary max-sum for multi-team task allocation in RoboCup Rescue. In *International Joint Workshop on Optimisation in Multi-Agent Systems and Distributed Constraint Reasoning (OPTMAS-DCR 14)*, May 5, 2014, Paris, France.
- [W.10] Filippo Bistaffa, Alessandro Farinelli, Jesús Cerquides, Juan A. Rodríguez-Aguilar and Sarvapali D. Ramchurn. Anytime Coalition Structure Generation on Scale-Free and Community Networks. In *International Joint Workshop on Optimisation in Multi-Agent Systems and Distributed Constraint Reasoning (OPTMAS-DCR 14)*, May 5, 2014, Paris, France.
- [W.11] Luca Iocchi, Alessandro Farinelli and Daniele Nardi. Distributed On-Line Coordination for Multi-Robot Patrolling. In *International Workshop on Autonomous Robots and Multirobot Systems (ARMS 14)* May 6, 2014, Paris, France.
- [W.12] M. Vinyals, F. Bistaffa, A. Farinelli, and A. Rogers. Stable coalition formation among energy consumers in the smart grid. Proceedings of the 3rd International Workshop on Agent Technologies for Energy Systems (ATES 2012)
- [W.13] K. Macarthur, M. Vinyals, A. Farinelli, S. Ramchurn, and N. R. Jennings. Decentralised Parallel Machine Scheduling for Multi-Agent Task Allocation. In *Fourth International Workshop on Optimisation in Multi-Agent Systems (OPTMAS 11)*, May 3, 2011, Taipei, Taiwan.
- [W.14] K. Macarthur, A. Farinelli, S. Ramchurn, N. R. Jennings. Efficient, Superstabilizing Decentralised Optimisation for Dynamic Task Allocation Environments. In *Proc. of International Workshop on: Optimisation in Multi-Agent Systems (OptMas)* at the Ninth Joint Conference on Autonomous and Multi-Agent Systems, 10 May 2010, Toronto, Canada. pp. 25-32.
- [W.15] A. Farinelli, A. Rogers, N. R. Jennings. Bounded Approximate Decentralised Coordination using the Max-Sum Algorithm. In *In Proc. of IJCAI-09 Workshop on Distributed Constraint Reasoning (DCR)*, 13th July 2009, Pasadena, California, USA.
- [W.16] A. Farinelli, A. Rogers, N. R. Jennings. Maximising Sensor Network Efficiency Through Agent-Based Coordination of Sense/Sleep Schedules In *WEWSN 2008 Workshop on Energy in Wireless Sensor Networks* to be held in conjunction with DCOSS 2008, Santorini Island, Greece, June 2008.

- [W.17] A. Farinelli and P. Scerri. Low-overhead cooperative detection of false sensor readings. In *Proc. of AAMAS workshop: Challenges in the Coordination of Large Scale Multi-Agent Systems (LSMAS)*, pp. 11–16, Utrecht, July 2005.
- [W.18] S. Bahadori, D. Calisi, A. Censi, A. Farinelli, G. Grisetti, L. Iocchi, and D. Nardi. Intelligent systems for search and rescue. In *Proc. of IROS Workshop "Urban search and rescue: from Robocup to real world applications"*, 2004.
- [W.19] A. Farinelli, P. Scerri, and M. Tambe. Building large-scale robot systems: Distributed role assignment in dynamic, uncertain domains. In *Representation and approaches for time-critical decentralized resources/role/task allocation (AAMAS WorkShop)*, 2003.
- [W.20] A. Farinelli, G. Grisetti, L. Iocchi, and D. Nardi. Coordination in dynamic environments with constraint on resources. In *IROS Workshop on Cooperative Robotics*, Lausanne, Switzerland, October 2002.
- [W.21] A. Farinelli, G. Grisetti, L. Iocchi, D. Nardi, and R. Rosati. Generation and execution of partially correct plans in dynamic environments. In *Proc. of 3rd Int. Cognitive Robotics Workshop (COGROB'02)*, Edmonton, Canada, 2002.

Presentazioni e Seminari

Tutorial

- [T.1] Coordination approaches for teams of mobile robots, two lessons, 3.5 hours in total, offered for the 2019 Advanced Course on AI (ACAI)/ Hellenic Artificial Intelligence Summer School (HAISS), sponsored by EurAI and EETN (Hellenic AI society).
- [T.2] Distributed Constraint Optimization in Multi-Agent Systems Dipartimento di Ingegneria informatica automatica e gestionale Antonio Ruberti, Sapienza Università di Roma. Two lessons, two hours each, PhD course on “Competition and Cooperation in Multi-Agent Systems” course organizers: Stefano Leonardi and Luca Iocchi.
- [T.3] Distributed search and constraint handling two lessons, two hours each, offered for the summer school EASSS 2012 (European Agent Systems Summer School). Tutors: Alessandro Farinelli, Alex Rogers, Meritxell Vinyals. June 2012, Valencia, Spain.
- [T.4] Team Coordination in Multiagent Systems one lesson, two hours, offered for the workshop: Austrian Robotics Workshop. Tutor: Alessandro Farinelli. May 2012, Graz, Austria.
- [T.5] Optimization in Multi Agent Systems Full day tutorial offered at IJCAI 11 (four sessions, two hours each). Tutors: Alessandro Farinelli, Jesús Cerquides, Sarvapali D. Ramchurn, Pedro Meseguer, Juan A. Rodríguez-Aguilar. July 2011, Barcelona, Spain.

Seminari

- [S.1] Safe Reinforcement Learning for Intelligent Robotic Systems: challenges and current trends, Skema business school, online, 2023.
- [S.2] IA per la cooperazione tra sistemi multi-robot nelle fabbriche intelligenti, Biennale Macchine Utensili (BI-MU), panel, Milano, 2022.
- [S.3] Safe Reinforcement Learning for Intelligent Robotic Systems, Intelligent Robotics Lab, Birmingham University, online, 2023.
- [S.4] Safe Reinforcement Learning for Intelligent Robotic Systems, Invited talk at Artificial Intelligence and RObotics (AIRO) workshop, co-located with AIXIA, Udine, Italy, 2021.
- [S.5] Recent advances on optimization approaches for joint decision making in Multi-Agent Systems, Università degli Studi di Padova, Padova, Italy, 2014.
- [S.6] A Graphical Model Approach to Decentralized Coordination for Robotic Agents, Institute for Systems and Robotics (ISR) Lisbon, Portugal, 2012.
- [S.7] Agent Coordination Using the Max-Sum Algorithm, Istituto Italiano di Tecnologia (IIT), Genova, Italy, 2011.
- [S.8] Agent Coordination Using the Max-Sum Algorithm, Università degli Studi di Padova, Padova, Italy, 2011.
- [S.9] Factored Decentralised Coordination of embedded Agents, Università degli studi di Sevilla, Sevilla, Spain, 2010.
- [S.10] Decentralised Coordination Using the Max-Sum Algorithm, University of Southern California (USC), Los Angeles, U.S., 2009.
- [S.11] Decentralised Coordination of Low-Power Embedded Devices Using the Max-Sum Algorithm, Southampton University, Science and Engineering of Natural Systems, Southampton, 2008.
- [S.12] Distributed Coordination for Robotic Agents, University of Birmingham, Artificial Intelligence and Natural Computation Seminar, Birmingham, 2008.
- [S.13] Cooperative Behaviors Using Local Interactions, Università La Sapienza di Roma, Dipartimento di Informatica e Sistemistica, Roma, 2007.
- [S.14] Token Passing approach to Task Assignment, Southampton University, Intelligence, Agents and Multimedia group, Agent seminars, Southampton, 2007.
- [S.15] Design, Development and Evaluation of Coordinated Multi-Robot Systems, Università Federico II, Dipartimento di Scienze Matematiche Fisiche e Naturali, Napoli, 2007.
- [S.16] Tool per il coordinamento di sistemi multi-agente, Selex Sistemi Integrati, Roma, 2007.

- [S.17] Distributed Task Assignment for Real World Environment, Dagstuhl Seminars, Multi-Robot Systems: Perception, Behaviors, Learning, and Action, Dagstuhl, N. 06251, 19.06.-23.06.06, 2006.

Presentazioni a Convegni e Workshop

- [P.1] Learning Queuing Strategies in Human-Multi-Robot Interaction *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, Jul 12, 2018, Stockholm, Sweden. (Poster Presentation).
- [P.2] Intelligent Battery Management for aquatic drones based on Task Difficulty driven POMDPs *AIRO workshop: Italian Workshop on Artificial Intelligence and Robotics (AIRO)*, co-located with *AIxIA (Italian Association for Artificial Intelligence) conference*, Nov 22, 2017, Trento, Italy. (Oral Presentation).
- [P.3] Activity recognition for autonomous water drones based on unsupervised learning methods *AIRO workshop: Italian Workshop on Artificial Intelligence and Robotics (AIRO)*, co-located with *AIxIA (Italian Association for Artificial Intelligence) conference*, Nov 14, 2017, Bari, Italy. (Oral Presentation).
- [P.4] Path Efficient Level Set Estimation for Mobile Sensors *The 32nd Annual ACM Symposium on Applied Computing*, Apr 4, 2017, Marrakesh, Morocco. (Oral and Poster Presentation).
- [P.5] Coloured Petri net plans for cooperative multi-robot systems *AIRO workshop: Italian Workshop on Artificial Intelligence and Robotics (AIRO)*, co-located with *AIxIA (Italian Association for Artificial Intelligence) conference*, Nov 18, 2016, Genova, Italy. (Oral Presentation).
- [P.6] Focused Exploration for Cooperative Robotic Watercraft *AIRO workshop: Italian Workshop on Artificial Intelligence and Robotics (AIRO)*, co-located with *AIxIA (Italian Association for Artificial Intelligence) conference*, Sep 22, 2015, Ferrara, Italy. (Oral Presentation).
- [P.7] A mechanism for smoothly handling human interrupts in team oriented plans *International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)*, 6 May, 2015, Istanbul, Turkey. (Oral Presentation).
- [P.8] Recent advances on coordination approaches for Multi-Robot Systems *AIRO workshop: Italian Workshop on Artificial Intelligence and Robotics (AIRO)*, co-located with *AIxIA (Italian Association for Artificial Intelligence) conference*, Dec 10, 2014, Pisa, Italy. (Oral Presentation).
- [P.9] Distributed On-Line Coordination for Multi-Robot Patrolling *AAMAS workshop: International Workshop on Autonomous Robots and Multirobot Systems (ARMS 14)*, May 6, 2014, Paris, France. (Oral Presentation).
- [P.10] A. Farinelli, M. Bicego, R. Sarvapali, and M. Zucchelli. C-Link: a hierarchical clustering approach to large-scale near-optimal coalition formation *International Joint Conference on Artificial Intelligence (IJCAI)*, Beijing, CN, 03 - 09 Aug 2013, (Poster presentation).

- [P.11] Visual Coverage Using Autonomous Mobile Robots for Search and Rescue Applications. IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR 2013), Linkoping, Sweden, 2013, (Oral presentation).
- [P.12] RMAStBench: a Benchmarking System for Multi-Agent Coordination in Urban Search and Rescue (Demonstration). Demo session presso International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 13), St. Paul, Minneapolis, USA, (Demonstration and Poster Presentation).
- [P.13] Coalitional energy purchasing in the smart grid. In Energy Conference and Exhibition (ENERGYCON), 2012 IEEE International, Sep. 2012, (Oral Presentation).
- [P.14] Max-Sum Decentralised Coordination for Sensor Systems (Demonstration). *Workshop su Distributed Constraint Reasoning (DCR 10)* presso International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 10), Toronto, Canada, (Oral Presentation).
- [P.15] Bounded Approximate Decentralised Coordination using the Max-Sum Algorithm. *Workshop su Distributed Constraint Reasoning (DCR 09)* presso International Joint Conference on Artificial Intelligence (IJCAI 09), Pasadena, U.S, (Oral Presentation).
- [P.16] Maximising Sensor Network Efficiency Through Agent-Based Coordination of Sense/Sleep Schedules. *WEWSN 2008 Workshop on Energy in Wireless Sensor Networks* Santorini Island, Greece, June, 2008, (Oral Presentation).
- [P.17] Decentralised Coordination of Low-Power Embedded Devices Using the Max-Sum Algorithm. In *In Proc. of AAMAS 08*, Estoril, Portugal, 2008 (Oral Presentation).
- [P.18] Dealing with Perception Errors in Multi-Robot System Coordination *Joint Int. Conf. on Artificial Intelligence (IJCAI-07)*, Hyderabad, India, 2007 (Poster Presentation).
- [P.19] Conflict Resolution with Minimal Communication Bandwidth *IEEE Workshop on Distributed Intelligent Systems*, Prague, 2006, (Oral Presentation).
- [P.20] Autonomous navigation and exploration in a rescue environment. *IEEE International Workshop on Safety, Security and Rescue Robotics (SSRR)*, Kobe, Japan, June 2005, (Oral Presentation).
- [P.21] Low-overhead cooperative detection of false sensor readings. *AAMAS workshop: Challenges in the Coordination of Large Scale Multi-Agent Systems (LSMAS)*, Utrecht, The Netherlands, July 2005, (Oral Presentation).
- [P.22] Task assignment with Dynamic Perception and Constrained Tasks in a Multi-Robot System. *IEEE Int. Conf. on Robotics and Automation (ICRA)*, Barcelona, Spain, 2005, (Oral Presentation).

- [P.23] Token Approach for Role Allocation in Extreme Teams: analysis and experimental evaluation. *IEEE International Workshops on Enabling Technologies: Infrastructures for Collaborative Enterprises (WETICE-2004)*., Modena, 2004, (Oral Presentation).
- [P.24] Dynamic token generation for constrained tasks in a Multi-Robot System. *International Conference on Systems, Man and Cybernetics*, pp. 911–917, The Hague, The Netherlands, 2004, (Oral Presentation).
- [P.25] An Analysis of Coordination in Multi-Robot Systems. *IEEE Int. Conf. on Systems, Man and Cybernetics*, Washington D. C., (USA), 2003, (Oral Presentation).
- [P.26] Planning trajectories in dynamic environments using a gradient method. *International RoboCup Symposium*, Padova, Italy, 2003, (Oral Presentation).
- [P.27] Allocating and reallocating roles in very large scale teams. *First Int. Workshop on Synthetic Simulation and Robotics to Mitigate Earthquake Disaster*, Padua, Italy, July 2003, (Oral Presentation).
- [P.28] Planning trajectories in domestic dynamic environment. *First RoboCare Workshop*, Rome, Italy, 2003, (Oral Presentation).
- [P.29] Coordination in dynamic environments with constraint on resources. *IROS Workshop on Cooperative Robotics*, Lausanne, Switzerland, October 2002, (Oral Presentation).
- [P.30] Planning trajectories in dynamic environments using a gradient method. *AIIA Workshop on Robotics*, Milan, Italy, 2001, (Oral Presentation).

ATTIVITÀ DI SUPERVISIONE PER PHD

Supervisore

2022-	Luca Marzari. Argomento della tesi: "Formal Verification for Safe Deep Reinforcement Learning". (Ciclo XXXVIII).
2019-2023	Davide Corsi. Titolo della tesi: "Safe Deep Reinforcement Learning: Enhancing the Reliability of Intelligent Systems". (Ciclo di dottorato XXXV). Davide Corsi ha al momento una posizione di ricerca come Post-Doc presso University of California Irvine (aggiornato nel 2024).
2019-2023	Adrià Fenoy. Titolo della tesi: "Combining Optimization and Machine Learning for the Formation of Collectives". (Ciclo di dottorato XXXV). Adrià Fenoy ha al momento un posizione come AI engineer presso MeteoSim (aggiornato nel 2024).
2018-2023	Giulio Mazzi. Titolo della tesi: "Rule-Based Policy Interpretation and Shielding for Partially Observable Monte Carlo Planning" (Ciclo di dottorato XXXIV).

2018-2022	Enrico Marchesini. Titolo della tesi: "Enhancing Exploration and Safety in Deep Reinforcement Learning". (Ciclo di dottorato XXXIV). Erico Marchesini ha al momento una posizione come Post-Doc presso Massachusetts Institute of Technology (MIT) (aggiornato nel 2024).
2016-2021	Riccardo Sarteà. Titolo della tesi: "Active Malware Analysis based on reinforcement learning techniques". (Ciclo di dottorato XXXII). Riccardo Sarteà ha al momento una posizione come Data Scientist presso Amazon Web Services (AWS) (aggiornato nel 2024).
2015-2018	Lorenzo Bottarelli. Titolo della tesi: "Optimizing Information Gathering for Environmental Monitoring Applications". (Ciclo di dottorato XXXI). Lorenzo Bottarelli ha al momento una posizione come "head of Machine Learning" presso Ignitia AB (aggiornato nel 2024).
2014-2017	Masoume M. Raeissi. Titolo della tesi: "Modeling Supervisory Control in Multi-Robot Applications". (Ciclo di dottorato XXX). Masoume Raeissi ha al momento una posizione come "Research Associate (AI)" presso Wageningen University & Research (aggiornato nel 2024)
2013-2015	Filippo Bistaffa. Titolo della tesi: "Constraint Optimisation Techniques for Real-World Applications". (Ciclo di dottorato XXVIII). Vincitore di una borsa Marie Curie, titolo: <i>Collectiveware: Highly-parallel algorithms for collective intelligence</i> (Grant N. 751608); istituzione ospitante: <i>Artificial Intelligence Research Institute (IIIA-CSIC)</i> , data di inizio: 16 Giugno 2017, durata 24 mesi. La tesi di Dottorato di Filippo Bistaffa ha ottenuto la "honorable mention" da AIXIA nel 2017. Filippo Bistaffa ha al momento una posizione come "tenured researcher" presso IIIA-CSIC (aggiornato nel 2024)

Co-supervisore

2021-	Francesco Trotti. Argomento della tesi: "A model-based reinforcement learning control system for multi agent planning under uncertainty exploiting agent's dynamic model" (Ciclo di dottorato XXXVII); supervisore: Riccardo Muradore.
2021-	Federico Bianchi. Argomento della tesi: "Safe Policy Improvement via Monte Carlo Tree Search" (Ciclo di dottorato XXXVII); supervisore: Alberto Castellini.
2020-	Maddalena Zuccotto. Argomento della tesi: "Learning in Monte-Carlo Tree-Search Planning" (Ciclo di dottorato XXXVII); supervisore: Alberto Castellini.

ATTIVITÀ EDITORIALE E DI REVISIONE

Attività Editoriale

2024-	Standard Editor per AIJ (Artificial Intelligence Journal). AIJ è classificato come Q1 nella categoria “Artificial Intelligence” (Scimago)
2019-	Editor Associato per JAIR (Journal of Artificial Intelligence Research). JAIR è classificato come Q1/Q2 (dipendentemente dall’anno) nella categoria “Artificial Intelligence” (Scimago)
Guest Editor	Special issue della rivista internazionale Journal of Autonomous Agents and Multi-Agent Systems (Vol. 22(3) - 2011). Titolo della special issue: Optimization in Multi-Agent Systems. JAAMAS nel 2011 è stato classificato come Q2 nella categoria “Artificial Intelligence” (Scimago) Special issue title: Optimization in Multi-Agent Systems. .

Organizzazione eventi scientifici

2019	Area Chair per IEEE MRS (IEEE International Symposium on Multi-robot and Multi-agent Systems), 2019.
2019	Co-Chair per International Conference on “Smarter Catchment Monitoring, Cleaner Waters”, 2019. Co-chair: Mark Scrimshaw.
2018	Mentore per il Doctoral Symposium, International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2018)
2018	Co-organizzatore per il workshop AIRO-18: Artificial Intelligence and Robotics, co-locato con la conferenza AIxIA 2018 (Associazione Italiana per Intelligenza Artificiale). Co-organizzatori: Alberto Finzi, Fulvio Mastrogiovanni, Salvatore Anzalone.
2018	Co-chair per demonstration track at the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2018); Co-chair: Iolanda Leite.
2017	Co-organizzatore per il workshop AIRO-17: Artificial Intelligence and Robotics, co-locato con la conferenza AIxIA 2017 (Associazione Italiana per Intelligenza Artificiale). Co-organizzatori: Alberto Finzi, Fulvio Mastrogiovanni, Salvatore Anzalone.
2017	Co-chair of the robotics track at the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2017); Co-chair: Chris Amato.

- 2016 Co-organizzatore per il workshop AIRO-16: Artificial Intelligence and Robotics, co-locato con la conferenza AIxIA 2016 (Associazione Italiana per Intelligenza Artificiale). Co-organizzatori: Alberto Finzi, Fulvio Mastrogiovanni.
- 2016 Co-organizzatore per il workshop ARMS16: Autonomous Robots and Multi-Robot Systems co-locato con International Conference on Autonomous Agents and Multi-Agent systems (AAMAS 16). Co-organizzatori: G. Kaminka, K. Hindriks, N. Agmon, Manuela Veloso, Maria Gini, Daniele Nardi, Pedro Lima, Erol Sahin.
- 2015 Co-organizzatore per il workshop ARMS15: Autonomous Robots and Multi-Robot Systems co-locato con International Conference on Autonomous Agents and Multi-Agent systems (AAMAS 15). Co-organizers: G. Kaminka, K. Hindriks, N. Agmon, Manuela Veloso, Maria Gini, Daniele Nardi, Pedro Lima, Erol Sahin.
- 2015 Co-chair per robotics track, International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2015); Co-chair: Gal Kaminka.
- 2014 Mentore per il Doctoral Symposium, International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2014)
- 2014 Co-organizzatore del workshop ARMS14:Autonomous Robots and Multi-Robot Systems co-locato con International Conference on Autonomous Agents and Multi-Agent systems (AAMAS 14). Co-organizzatori: G. Kaminka, K. Hindriks, N. Agmon, Manuela Veloso, Maria Gini, Daniele Nardi, Pedro Lima, Erol Sahin.
- 2013 Exhibition Chair per la conferenza internazionale su Autonomous Agents and Multi-Agent Systems (AAMAS 2013).
- 2013 Co-organizzatore del workshop OPTMAS13:Optimisation in Multi-Agent Systems co-locato con International Conference on Autonomous Agents and Multi-Agent systems (AAMAS 13). Co-organizzatori: J.C. Bueno, J.A. Aguilar-Rodriguez, A. Chapman, S. Ramchurn, M. Vinyals.
- 2013 Co-organizzatore del workshop ARMS13:Autonomous Robots and Multi-Robot Systems co-locato con International Conference on Autonomous Agents and Multi-Agent systems (AAMAS 13). Co-organizzatori: G. Kaminka, K. Hindriks, J. Boerkoel, N. Agmon.
- 2012 Co-organizzatore del workshop OPTMAS12:Optimisation in Multi-Agent Systems co-locato con International Conference on Autonomous Agents and Multi-Agent systems (AAMAS 12). Co-organizzatori: J.C. Bueno, J.A. Aguilar-Rodriguez, S. Ramchurn, M. Vinyals.

2011	Co-organizzatore del workshop OPTMAS11:Optimisation in Multi-Agent Systems co-locato con International Conference on Autonomous Agents and Multi-Agent systems (AAMAS 11). Co-organizzatori: J.C. Bueno, J.A. Aguilar-Rodriguez, S. Ramchurn.
2010	Co-organizzatore del workshop OPTMAS10:Optimisation in Multi-Agent Systems co-locato con International Conference on Autonomous Agents and Multi-Agent systems (AAMAS 10). Co-organizzatori: J.C. Bueno, J.A. Aguilar-Rodriguez, S. Ramchurn.
2009	Co-organizzatore del workshop OPTMAS09:Optimisation in Multi-Agent Systems co-locato con International Conference on Autonomous Agents and Multi-Agent systems (AAMAS 09). Co-organizzatori: J.C. Bueno, J.A. Aguilar-Rodriguez, S. Ramchurn.
2009	Co-organizzatore del workshop ADAPT:Agent Design: Advancing from Theory to Practice co-locato con International Conference on Autonomous Agents and Multi-Agent systems (AAMAS 09). Co-organizzatori: N. Schurr, R. Maheswaran,
2006–2007	Membro del comitato tecnico per l'organizzazione delle competizioni RoboCup Rescue, Virtual Robots <i>URL:</i> http://www.robocuprescue.org/rescuerobots.html

Revisione e partecipazioni a comitati di programma

- **componente del Comitato di programma per varie edizioni delle seguenti conferenze internazionali:**
 - Autonomous Agent and Multi Agent Systems (AAMAS);
 - International Joint Conference on artificial Intelligence (ICAI);
 - AAAI conference on Artificial Intelligence (American Association for the Advancement of Artificial Intelligence);
 - International Conference of Machine Learning (ICML);
 - IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR);
 - Neural Information Processing Systems (NeurIPS);
 - Uncertainty in AI (UAI);
 - European Conference on Artificial Intelligence (ECAI);
 - Intelligent Autonomous Systems;
 - ACM Symposium on Applied Computing;
- **Revisore per le seguenti Riviste**
 - Artificial Intelligence Journal;
 - International Journal of Artificial Intelligence Research;

- International Journal of Autonomous Agents and Multi-Agent Systems;
- IEEE transaction on System, Man and Cybernetics (part A,C);
- International Journal on Multi-Sensor, Multi-Source Information Fusion;
- AI Communications;
- Expert Systems;
- Advances in Complex Systems;
- IEEE Transactions on Robotics;
- Computer Journal.

Valutatore Esperto per Progetti di Ricerca

- valutatore per progetti di ricerca per Netherlands Organisation for Scientific Research (NWO)
- valutatore per progetti di ricerca per Israel Science Foundation

3 giugno 2024

Alessandro Farinelli

A handwritten signature in black ink, reading "Alessandro Farinelli". The signature is written in a cursive, flowing style.