

INFORMAZIONI PERSONALI

Valeria Cardellini

 Dipartimento di Ingegneria Civile e Ingegneria Informatica
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Data di nascita  | Nazionalità Italiana

POSIZIONE ATTUALE

Professore associato inquadrato nel settore scientifico-disciplinare ING-INF/05 (Sistemi di elaborazione delle informazioni) presso il Dipartimento di Ingegneria Civile e Ingegneria Informatica dell'Università degli Studi di Roma "Tor Vergata".

TITOLI DI STUDIO

- Dottorato di Ricerca in Informatica e Ingegneria dell'Automazione (XIII ciclo) conseguito nel 2001 presso l'Università degli Studi di Roma "Tor Vergata".
- Laurea in Ingegneria Informatica conseguita nel 1997 presso l'Università degli Studi di Roma "Tor Vergata" con la votazione di 100/100 e lode.
- Diploma di Maturità Scientifica conseguito nel 1991 presso il Liceo Scientifico Statale "Pitagora" di Roma con la votazione di 60/60.

ESPERIENZA PROFESSIONALE

Gennaio 2015 – oggi	Professore associato inquadrato nel settore scientifico-disciplinare ING-INF/05 (Sistemi di elaborazione delle informazioni) presso il Dipartimento di Ingegneria Civile e Ingegneria Informatica dell'Università degli Studi di Roma "Tor Vergata".
Ottobre 2009 - Gennaio 2015	Ricercatore confermato nel settore scientifico-disciplinare ING-INF/05 (Sistemi di elaborazione delle informazioni) presso il Dipartimento di Ingegneria Civile e Ingegneria Informatica dell'Università degli Studi di Roma "Tor Vergata".
Ottobre 2006 - Ottobre 2009	Ricercatore non confermato nel settore scientifico disciplinare ING-INF/05 (Sistemi di elaborazione delle informazioni) presso la Facoltà di Ingegneria, Dipartimento di Informatica, Sistemi e Produzione dell'Università degli Studi di Roma "Tor Vergata".
Novembre 2000 - Ottobre 2006	Assegnista di Ricerca (4 anni) e titolare di contratti di collaborazione presso l'Università degli Studi di Roma "Tor Vergata".
Maggio - Novembre 1999	Visiting researcher, ospite del Dr. Philip Yu, presso l'IBM T.J. Watson Research Center di Yorktown Heights (New York, USA), con grant da IBM Research.

TITOLARE DI INSEGNAMENTI UNIVERSITARI

Corso di Studi in
 Ingegneria Informatica
 Università degli Studi di Roma
 "Tor Vergata"

Sistemi Distribuiti e Cloud Computing (dall'A.A. 2011/12 all'A.A. 2022/23), 9 CFU
 Sistemi e Architetture per Big Data (dall'A.A. 2016/17 all'A.A. 2022/23), 6 CFU
 Calcolatori Elettronici (A.A. 2018/19 e 2019/2020), 3 CFU
 Sistemi Distribuiti (dall'A.A. 2008/09 all'A.A. 2010/11), 10 CFU
 Architetture dei Calcolatori e Sistemi Operativi I parte (A.A. 2008/09), 5 CFU
 Ingegneria del Web (A.A. 2006/07 e 2007/08), 5 CFU
 Architetture Avanzate dei Calcolatori (dall'A.A. 2005/06 all'A.A. 2007/08), 5 CFU
 Architetture dei Calcolatori (dall'A.A. 2002/03 all'A.A. 2004/05), 5 CFU

Altri Corsi di Studi

Algorithms, Data and Security (dall'A.A. 2018/19 all'A.A. 2022/23), English-taught, B.A. in Global Governance, Università degli Studi di Roma "Tor Vergata", 6 CFU
 Machine Learning and Big Data (A.Y. 2020/21), English-taught, MSc in Computational and Software Techniques in Engineering, Cranfield University, 28 hours
 Computer Skills (A.A. 2015/16), Corso di Studi in Business Economics, Università degli Studi di Roma "Tor Vergata", 6 CFU
 Computer Skills (A.A. 2014/15), English-taught, Corso di Studi in Business Economics, Università

Master Universitari di I e II livello

degli Studi di Roma "Tor Vergata", 3 CFU

Architetture di Elaborazione (A.A. 2000/01), Corso di Studi in Ingegneria delle Telecomunicazioni presso l'Università degli Studi di Roma "La Sapienza", 5 CFU

Big Data (dall'A.A. 2014/15 all'A.A. 2022/23), Master di I livello in Data Science presso l'Università degli Studi di Roma "Tor Vergata", 4 CFU

Big Data, Hadoop and Spark (dall'A.A. 2014/15 all'A.A. 2022/23), Master di II livello in Customer Experience, Statistics, Machine learning & Artificial Intelligence presso l'Università degli Studi di Roma "Tor Vergata"

ISTRUZIONE E FORMAZIONE

Novembre 1997-Ottobre 2000

Dottoranda, con borsa di studio ministeriale, in Informatica e Ingegneria dell'Automazione (XIII ciclo) presso l'Università di Roma "Tor Vergata".

Ottobre 1991-Luglio 1997

Studentessa del Corso di Laurea in Ingegneria Informatica presso l'Università di Roma "Tor Vergata".

COMPETENZE PERSONALI

Lingua madre Italiano

Altre lingue

Inglese

COMPRESIONE		PARLATO		PRODUZIONE SCRITTA
Ascolto	Lettura	Interazione	Produzione orale	
C1	C2	C1	C1	C1

Livelli: A1/A2: Utente base - B1/B2: Utente intermedio - C1/C2: Utente avanzato
[Quadro Comune Europeo di Riferimento delle Lingue](#)

Competenze comunicative

Possiedo elevate competenze comunicative acquisite durante la mia esperienza professionale a partire dal 1998 (lezioni universitarie, seminari, tutorial, presentazioni a conferenze internazionali, presentazioni nell'ambito di progetti nazionali ed internazionali).

Competenza digitale

AUTOVALUTAZIONE				
Elaborazione delle informazioni	Comunicazione	Creazione di Contenuti	Sicurezza	Risoluzione di problemi
Utente avanzato	Utente avanzato	Utente avanzato	Utente avanzato	Utente avanzato

Livelli: Utente base - Utente intermedio - Utente avanzato
[Competenze digitali - Scheda per l'autovalutazione](#)

ULTERIORI INFORMAZIONI

Pubblicazioni in Riviste Internazionali

- [R1] V. Cardellini, M. Colajanni, P.S. Yu, "Dynamic load balancing on Web-server systems", *IEEE Internet Computing*, Vol. 3, No. 3, pp. 28-39, M-June 1999. doi: 10.1109/4236.769420
- [R2] V. Cardellini, M. Colajanni, P.S. Yu, "DNS dispatching algorithms with state estimators for scalable Web-server clusters", *World Wide Web*, Baltzer Science, Vol. 2, No. 3, pp. 101-113, Aug. 1999. doi: 10.1023/A:1019296605640
- [R3] V. Cardellini, E. Casalicchio, M. Colajanni, M. Mambelli, "Web switch support for differentiated services", *ACM Sigmetrics Performance Evaluation Review*, Vol. 29, No. 2, pp. 14-19, Sept. 2001. doi: 10.1145/572317.572320
- [R4] V. Cardellini, E. Casalicchio, M. Colajanni, S. Tucci, "Mechanisms for quality of service in Web clusters", *Computer Networks*, Elsevier Science, Vol. 37, No. 6, pp. 761-771, Dec. 2001. doi: 10.1016/S1389-1286(01)00252-3
- [R5] E. Casalicchio, V. Cardellini, M. Colajanni, "Content-aware dispatching algorithms for cluster-

- based Web servers", *Cluster Computing*, Kluwer Academic Publ., Vol. 5, No. 1, pp. 65-74, Jan. 2002. doi: 10.1023/A:1012796706047
- [RI6] V. Cardellini, E. Casalicchio, M. Colajanni, P.S. Yu, "The state of the art in locally distributed Web-server systems", *ACM Computing Surveys*, Vol. 34, No. 2, pp. 263-311, June 2002. doi: 10.1145/508352.508355
- [RI7] V. Cardellini, M. Colajanni, P.S. Yu, "Request redirection algorithms for distributed Web systems", *IEEE Transactions on Parallel and Distributed Systems*, Vol. 14, No. 4, pp. 355-368, Apr. 2003. doi: 10.1109/TPDS.2003.1195408
- [RI8] C. Canali, V. Cardellini, R. Lancellotti, "Content adaptation architectures based on Squid proxy server", *World Wide Web*, Springer, Vol. 9, No. 1, pp. 63-92, Mar. 2006. doi: 10.1007/s11280-005-4049-9
- [RI9] M. Abundo, V. Cardellini, F. Lo Presti, "Admission control policies for a multi-class QoS-aware service oriented architecture", *ACM Performance Evaluation Review*, Vol. 39, No. 4, pp. 89-98, Apr. 2012. doi: 10.1145/2185395.2185445
- [RI10] V. Cardellini, E. Casalicchio, V. Grassi, S. Iannucci, F. Lo Presti, R. Mirandola, "MOSES: a framework for QoS driven runtime adaptation of service-oriented systems", *IEEE Transactions on Software Engineering*, Vol. 38, No. 5, pp. 1138-1159, Sept./Oct. 2012. doi: 10.1109/TSE.2011.68
- [RI11] V. Cardellini, V. Di Valerio, V. Grassi, S. Iannucci, F. Lo Presti, "QoS driven per-request load-aware service selection in service oriented architectures", *International Journal of Software and Informatics*, Vol. 7, No. 2, pp. 195-220, 2013.
- [RI12] V. Cardellini, S. Filippone, D. Rouson, "Design patterns for sparse-matrix computations on hybrid CPU/GPU platforms", *Scientific Programming*, Vol. 22, No. 1, pp. 1-19, 2014. doi: 10.3233/SPR-130363
- [RI13] V. Cardellini, V. De Nitto Personè, V. Di Valerio, F. Facchinei, V. Grassi, F. Lo Presti, V. Piccialli, "A game-theoretic approach to computation offloading in mobile cloud computing", *Mathematical Programming*, Vol. 157, No. 2, pp. 421-449, June 2016. doi: 10.1007/s10107-015-0881-6
- [RI14] S. Filippone, V. Cardellini, D. Barbieri, A. Fanfarillo, "Sparse matrix-vector multiplication on GPGPUs", *ACM Transactions on Mathematical Software*, Vol. 43, No. 4, Article No. 30, December 2016. doi: 10.1145/3017994S
- [RI15] V. Cardellini, V. Grassi, F. Lo Presti, M. Nardelli, "Optimal operator replication and placement for distributed stream processing systems", *ACM SIGMETRICS Performance Evaluation Review*, Vol. 44, No. 4, pp. 11-22, March 2017. doi: 10.1145/3092819.3092823
- [RI16] V. Cardellini, A. Fanfarillo, S. Filippone, "Coarray-based load balancing on heterogeneous and many-core architectures", *Parallel Computing*, Vol. 68, pp. 45-58, October 2017. doi: 10.1016/j.parco.2017.06.001
- [RI17] E. Casalicchio, V. Cardellini, G. Interino, M. Palmirani, "Research challenges in legal-rule and QoS-aware cloud service brokerage", *Future Generation Computer Systems*, Vol. 78, Part 1, pp. 211-223, January 2018. doi: 10.1016/j.future.2016.11.025
- [RI18] V. Cardellini, F. Lo Presti, M. Nardelli, G. Russo Russo, "Optimal operator deployment and replication for elastic distributed data stream processing", *Concurrency and Computation: Practice & Experience*, Vol. 30, No. 9, May 2018. doi: 10.1002/cpe.4334
- [RI19] G. Russo Russo, M. Nardelli, V. Cardellini, F. Lo Presti, "Multi-level elasticity for wide-area data streaming systems: a reinforcement learning approach", *Algorithms*, Special Issue on Algorithms for the Resource Management of Large Scale Infrastructures, Vol. 11, No. 9, Art. 134, pp. 1-27, MDPI, September 2018. doi: 10.3390/a11090134
- [RI20] V. Cardellini, F. Lo Presti, M. Nardelli, G. Russo Russo, "Decentralized self-adaptation for elastic data stream processing", *Future Generation Computer Systems*, Vol. 87, pp. 171-185, October 2018. doi: 10.1016/j.future.2018.05.025
- [RI21] A. Abdullahi Hassan, V. Cardellini, P. D'Ambra, D. di Serafino, S. Filippone, "Efficient algebraic multigrid preconditioners on clusters of GPUs", *Parallel Processing Letters*, Vol. 29, No. 1, March 2019. doi: 10.1142/S0129626419500014
- [RI22] M. Nardelli, V. Cardellini, V. Grassi, F. Lo Presti, "Efficient operator placement for distributed data stream processing applications", *IEEE Transactions on Parallel and Distributed Systems*, Vol. 30, No. 8, pp. 1753-1767, August 2019. doi: 10.1109/TPDS.2019.2896115
- [RI23] V. Cardellini, V. Di Valerio, F. Lo Presti, "Game-theoretic pricing and provisioning strategies in

cloud systems", *IEEE Transactions on Service Computing*, Vol. 13, No. 1, pp. 86–98, January/February 2020. doi: 10.1109/TSC.2016.2633266

[R124] F. Rossi, V. Cardellini, F. Lo Presti, M. Nardelli, "Geo-distributed efficient deployment of containers with Kubernetes", *Computer Communications*, Vol. 159, pp. 161–174, June 2020. doi: 10.1016/j.comcom.2020.04.061

[R125] S. Iannucci, V. Cardellini, O.D. Barba, I. Banicescu, "A hybrid model-free approach for the near-optimal intrusion response control of non-stationary systems", *Future Generation Computer Systems*, Vol. 109, pp. 111–124, August 2020. doi: 10.1016/j.future.2020.03.018

[R126] V. Cardellini, E. Casalicchio, S. Iannucci, M. Lucantonio, S. Mittal, D. Panigrahi, A. Silvi, "irs-partition: An Intrusion Response System utilizing Deep Q-Networks and system partitions", *Elsevier SoftwareX*, Vol. 19, 8 pages, June 2022. doi: 10.1016/j.softx.2022.101120

[R127] V. Cardellini, F. Lo Presti, M. Nardelli, G. Russo Russo, "Runtime adaptation of data stream processing systems: The state of the art", *ACM Computing Surveys*, Vol. 54, No. 11s, Article No. 237 pp. 1–36, September 2022. doi: 10.1145/3514496

[R128] F. Rossi, V. Cardellini, F. Lo Presti, M. Nardelli, "Dynamic multi-metric thresholds for scaling applications using reinforcement learning", *IEEE Transactions on Cloud Computing*, accepted for publication, March 2022. doi: 10.1109/TCC.2022.3163357

Articoli Editoriali

[AE1] V. Cardellini, G. Mencagli, D. Talia, M. Torquati, "New landscapes of the data stream processing in the era of fog computing", *Future Generation Computer Systems*, Vol. 99, pp. 646–650, October 2019. doi: 10.1016/j.future.2019.03.027

[AE2] M. Aldinucci, V. Cardellini, G. Mencagli, M. Torquati, "Data stream processing in HPC systems: New frameworks and architectures for high-frequency streaming", *Parallel Computing*, Vol. 98, October 2020. doi: 10.1016/j.parco.2020.102694

[AE3] L. Lundberg, H. Grahm, V. Cardellini, A. Polze, S. Shirinbab, "Editorial to the special issue on big data in industrial and commercial applications", *Big Data Research*, Vol. 26, 100244, 3 pages, November 2021. doi: 10.1016/j.bdr.2021.100244

Libri Editi

[E1] N. Bartolini, S. Nikolettseas, P. Sinha, V. Cardellini, A. Mahanti (Eds.), "Quality of Service in Heterogeneous Networks - 6th International ICST Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness, QShine 2009 and 3rd International Workshop on Advanced Architectures and Algorithms for Internet Delivery and Applications, AAA-IDEA 2009", Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering Vol. 22, Springer, Nov. 2009. ISBN: 978-3-642-10624-8. doi: 10.1007/978-3-642-10625-5

[E2] V. Cardellini, E. Casalicchio, K.R.L.J. Castelo Branco, J.C. Estrella, F.J. Monaco (Eds.), "Performance and Dependability in Service Computing: Concepts, Techniques and Research Directions", IGI Global, 2012. ISBN: 978-1-609-60794-4. doi: 10.4018/978-1-60960-794-4

[E3] G. Mencagli, D. B. Heras, V. Cardellini, E. Casalicchio, E. Jeannot, F. Wolf, A. Salis, C. Schifanella, R. R. Manumachu, L. Ricci, M. Beccuti, L. Antonelli, J. D. Garcia Sanchez, S. L. Scott, "Euro-Par 2018: Parallel Processing Workshops - Euro-Par 2018 International Workshops, Turin, Italy, August 27-28, 2018, Revised Selected Papers", Lecture Notes in Computer Sciences Vol. 11339, Springer, March 2019. doi: 10.1007/978-3-030-10549-5

[E4] U. Schwardmann, C. Boehme, D. B. Heras, V. Cardellini, E. Jeannot, A. Salis, C. Schifanella, R. R. Manumachu, D. Schwamborn, L. Ricci, O. Sangyoon, T. Gruber, L. Antonelli, S. L. Scott, "Euro-Par 2019: Parallel Processing Workshops - Euro-Par 2019 International Workshops, Gottingen, Germany, August 26-30, 2019, Revised Selected Papers", Lecture Notes in Computer Sciences Vol. 11997, Springer, April 2020. doi: 10.1007/978-3-030-48340-1

[E5] L. Mashayekhy, S. Schulte, V. Cardellini, B. Kantarci, Y. Simmhan, B. Varghese, "2022 IEEE 6th International Conference on Fog and Edge Computing (ICFEC)", IEEE Computer Society, June 2022. doi: 10.1109/ICFEC54809.2022

[E6] M. Fazio, D. K. Panda, R. Prodan, V. Cardellini, B. Kantarci, O. Rana, M. Villari, "2022 22nd IEEE International Symposium on Cluster, Cloud and Internet Computing (CCGrid)", IEEE Computer Society, July 2022. doi: 10.1109/CCGRID54584.2022

Pubblicazioni in Libri a Diffusione Internazionale

[M1] V. Cardellini, M. Colajanni, P.S. Yu, "Impact of workload models in evaluating the performance of distributed Web-server systems", *System Performance Evaluation: Methodologies and Applications*, E. Gelenbe (ed.), CRC Press, pp. 397–417, Mar. 2000.

[M2] M. Andreolini, V. Cardellini, M. Colajanni, "Benchmarking models and tools for distributed Web-

- server systems", *Performance Evaluation of Complex Systems: Techniques and Tools*, Lecture Notes in Computer Science Vol. 2459, Springer, pp. 208-235, Nov. 2002. doi: 10.1007/3-540-45798-4_10
- [M3] V. Cardellini, M. Colajanni, P.S. Yu, "Distributed systems for efficient Web-based services", *Performance Evaluation of Parallel, Distributed and Emergent Systems (Distributed, Cluster and Grid Computing, Volume 1)*, Nova Science Publishers, pp. 319-354, Dec. 2007.
- [M4] C. Canali, V. Cardellini, M. Colajanni, R. Lancellotti, "Content delivery and management", *Content Delivery Networks*, Lecture Notes in Electrical Engineering Vol. 9, Springer, pp. 105-126, Sept. 2008. doi: 10.1007/978-3-540-77887-5_4
- [M5] V. Cardellini, E. Casalicchio, F. Lo Presti, V. Grassi, R. Mirandola, "Towards self-adaptation for dependable service oriented systems", *Architecting Dependable Systems VI*, Lecture Notes in Computer Science, Programming and Software Engineering Vol. 5835, Springer, pp. 24-48, Oct. 2009. doi: 10.1007/978-3-642-10248-6_2
- [M6] V. Cardellini, E. Casalicchio, L. Silvestri, "Service level provisioning for cloud-based applications", *Advancements in Distributed Computing and Internet Technologies: Trends and Issues*, IGI Global, pp. 363-385, 2012. doi: 10.4018/978-1-61350-110-8.ch017
- [M7] V. Cardellini, E. Casalicchio, V. Grassi, F. Lo Presti, "On guaranteeing global dependability properties in collaborative business process management", *Business System Management and Engineering: From Open Issues to Applications*, Lecture Notes in Computer Science, Vol. 7350, Springer, pp. 48-70, July 2012. doi: 10.1007/978-3-642-32439-0_4
- [M8] V. Cardellini, V. Di Valerio, S. Iannucci, F. Lo Presti, "Service-oriented systems for adaptive management of service composition", *Adaptive Web Services for Modular and Reusable Software Development: Tactics and Solutions*, IGI Global, pp. 161-195, 2013. doi: 10.4018/978-1-4666-2089-6.ch006
- [M9] V. Cardellini, E. Casalicchio, V. Grassi, S. Iannucci, F. Lo Presti, R. Mirandola, "MOSES: a platform for experimenting with QoS-driven self-adaptation policies for service oriented systems", *Software Engineering for Self-Adaptive Systems III. Assurances*, R. de Lemos, D. Garlan, C. Ghezzi, and H. Giese (eds.), Lecture Notes in Computer Science, Vol. 9640, Springer, pp. 409-433, 2017. doi: 10.1007/978-3-319-74183-3_14
- [M10] V. Cardellini, T. Galinac Grbac, M. Nardelli, N. Tankovic, H.-L. Truong, "QoS-based elasticity for service chains in distributed edge cloud environments", *Autonomous Control for a Reliable Internet of Services: Methods, Models, Approaches, Techniques, Algorithms and Tools*, I. Ganchev, R. van der Mei, H. van den Berg (eds.), Lecture Notes in Computer Science, Vol. 10768, Springer, pp. 182-211, May 2018. doi: 10.1007/978-3-319-90415-3_8
- [M11] V. Cardellini, T. Galinac Grbac, A. Kassler, P. Kathiravelu, F. Lo Presti, A. Marotta, M. Nardelli, L. Veiga, "Integrating SDN and NFV with QoS-aware service composition", *Autonomous Control for a Reliable Internet of Services: Methods, Models, Approaches, Techniques, Algorithms and Tools*, I. Ganchev, R. van der Mei, H. van den Berg (eds.), Lecture Notes in Computer Science, Vol. 10768, Springer, pp. 212-240, May 2018. doi: 10.1007/978-3-319-90415-3_9
- [M12] G. Russo Russo, V. Cardellini, F. Lo Presti, M. Nardelli, "Towards a security-aware deployment of data streaming applications in fog computing", *Fog/Edge Computing for Security, Privacy, and Applications*, W. Chang and J. Wu (eds.), Springer, pp. 355-388, Jan. 2021. doi: 10.1007/978-3-030-57328-7_14
- [M13] A. Alnafessah, G. Russo Russo, V. Cardellini, G. Casale, F. Lo Presti, "AI-driven performance management in data-intensive applications", *Communications Network and Service Management in the Era of Artificial Intelligence and Machine Learning*, N. Zincir-Heywood, Y. Diao, M. Mellia (eds.), IEEE Press Series on Networks and Service Management, Wiley, pp. 199-222, Sept. 2021. doi: 10.1002/9781119675525.ch9
- [CI1] M. Colajanni, P.S. Yu, V. Cardellini, "Dynamic load balancing in geographically distributed heterogeneous Web servers", *Proceedings of the 18th IEEE International Conference on Distributed Computing Systems (ICDCS 1998)*, Amsterdam, The Netherlands, pp. 295-302, May 1998. doi: 10.1109/ICDCS.1998.679729
- [CI2] V. Cardellini, M. Colajanni, P.S. Yu, "Efficient state estimators for load control policies in scalable Web server clusters", *Proceedings of the 22th IEEE International Computer Software and Application Conference (COMPSAC 1998)*, Vienna, Austria, pp. 449-455, Aug. 1998. doi: 10.1109/COMPSAC.1998.716694

- [CI3] V. Cardellini, M. Colajanni, P.S. Yu, "High performance Web-server systems", *Advances in Computer and Information Sciences '98 - Proceedings of the 13th International Symposium on Computer and Information Sciences (ISCIS 1998)*, Ankara, Turkey, IOS Press, pp. 288-293, Oct. 1998.
- [CI4] V. Cardellini, M. Colajanni, P.S. Yu, "Redirection algorithms for load sharing in distributed Web-server systems", *Proceedings of the 19th IEEE International Conference on Distributed Computing Systems (ICDCS 1999)*, Austin, TX, pp. 528-535, June 1999. doi: 10.1109/ICDCS.1999.776555
- [CI5] V. Cardellini, M. Colajanni, P.S. Yu, "Redirecting strategies for load sharing policies in distributed Web systems", *Proceedings of the 14th International Symposium on Computer and Information Sciences (ISCIS 1999)*, Kusadasi, Turkey, pp. 91-98, Oct. 1999.
- [CI6] V. Cardellini, M. Colajanni, P.S. Yu, "Geographic load balancing for scalable distributed Web systems", *Proceedings of the 8th International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS 2000)*, San Francisco, CA, pp. 20-27, Aug. 2000. doi: 10.1109/MASCOT.2000.876425
- [CI7] V. Cardellini, P.S. Yu, Y.-W. Huang, "Collaborative proxy system for distributed Web content transcoding", *Proceedings of the 9th ACM International Conference on Information and Knowledge Management (CIKM 2000)*, McLean, VA, pp. 520-527, Nov. 2000. doi: 10.1145/354756.354861
- [CI8] V. Cardellini, E. Casalicchio, M. Colajanni, "A performance study of distributed architectures for the quality of Web services", *Proceedings of the 34th Hawaii International Conference on System Sciences (HICSS-34)*, Maui, Hawaii, pp. 3551-3560, Jan. 2001. doi: 10.1109/HICSS.2001.927213
- [CI9] V. Cardellini, E. Casalicchio, M. Colajanni, M. Mambelli, "Enhancing a Web-server cluster with Quality of Service mechanisms", *Proceedings of the 21st IEEE International Performance, Computing, and Communications Conference (IPCCC 2002)*, Phoenix, AZ, pp. 205-212, Apr. 2002. doi: 10.1109/IPCCC.2002.995152
- [CI10] V. Cardellini, M. Colajanni, R. Lancellotti, P.S. Yu, "A distributed architecture of edge proxy servers for cooperative transcoding", *Proceedings of the 3rd IEEE Workshop on Internet Applications (WIAPP 2003)*, San Jose, CA, pp. 66-70, June 2003. doi: 10.1109/WIAPP.2003.1210288
- [CI11] C. Canali, V. Cardellini, M. Colajanni, R. Lancellotti, P.S. Yu, "Cooperative architectures and algorithms for discovery and transcoding of multi-version content", *Web Content Caching and Distribution: Proceedings of the 8th International Workshop*, pp. 205-221, Kluwer Academic Publisher, June 2004. doi: 10.1007/1-4020-2258-1_14
- [CI12] C. Canali, V. Cardellini, M. Colajanni, R. Lancellotti, "Evaluating user-perceived benefits of Content Distribution Networks", *Proceedings of the 2004 International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS 2004)*, San Jose, CA, pp. 98-105, July 2004.
- [CI13] C. Canali, V. Cardellini, M. Colajanni, R. Lancellotti, P.S. Yu, "A two-level distributed architecture for efficient Web content adaptation and delivery", *Proceedings of the 2005 IEEE/IPSJ Symposium on Applications and the Internet (SAINT 2005)*, Trento, Italy, pp. 132-139, Jan./Feb. 2005. doi: 10.1109/SAINT.2005.10
- [CI14] C. Canali, V. Cardellini, M. Colajanni, R. Lancellotti, "Performance comparison of distributed architectures for content adaptation and delivery of Web resources", *Proceedings of the IEEE Distributed Computing Systems Workshops*, Columbus, OH, pp. 331-337, June 2005. doi: 10.1109/ICDCSW.2005.109
- [CI15] E. Casalicchio, V. Cardellini, S. Tucci, "Design and performance evaluation of mechanisms for mobile-devices handoff forecast", *Proceedings of the FIRB-Perf Workshop on Techniques, Methodologies and Tools for Performance Evaluation of Complex Systems*, Torino, Italy, pp. 64-74, Sept. 2005. doi: 10.1109/FIRB-PERF.2005.7
- [CI16] E. Casalicchio, V. Cardellini, S. Tucci, "A layer-2 trigger to improve QoS in content and session-oriented mobile services", *Proceedings of the 8th ACM/IEEE International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems (WSWiM 2005)*, Montreal, Canada, pp. 95-102, Oct. 2005. doi: 10.1145/1089444.1089462
- [CI17] V. Cardellini, E. Casalicchio, S. Tucci, "Agent-based modeling of Web systems in critical information infrastructures", *Proceedings of the International Workshop on Complex Network and Infrastructure Protection (CNIP 2006)*, Roma, Italy, pp. 541-553, Mar. 2006.
- [CI18] V. Cardellini, E. Casalicchio, V. Grassi, R. Mirandola, "A framework for optimal service selection

- in broker-based architectures with multiple QoS classes", *Proceedings of the IEEE Services Computing Workshops*, Chicago, IL, pp. 105-112, Sept. 2006. doi: 10.1109/SCW.2006.1
- [CI19] V. Cardellini, E. Casalicchio, E. Galli, "Agent-based modeling of interdependencies in critical infrastructures through UML", *Proceedings of the 2007 Spring Simulation Multiconference - Vol. 2*, pp. 119-126, Norfolk, VA, March 2007.
- [CI20] V. Cardellini, E. Casalicchio, V. Grassi, F. Lo Presti, "Flow-based service selection for Web service composition supporting multiple QoS classes", *Proceedings of the 2007 IEEE International Conference on Web Services (ICWS 2007)*, Salt Lake City, UT, pp. 743-750, July 2007. doi: 10.1109/ICWS.2007.91
- [CI21] V. Cardellini, E. Casalicchio, V. Grassi, F. Lo Presti, "Efficient provisioning of service level agreements for service oriented applications", *Proceedings of the 2nd International Workshop on Service Oriented Software Engineering (IW-SOSWE 2007)*, Dubrovnik, Croazia, pp. 29-35, Sept. 2007. doi: 10.1145/1294928.1294936
- [CI22] V. Cardellini, E. Casalicchio, V. Grassi, F. Lo Presti, R. Mirandola, "QoS-driven runtime adaptation of service oriented architectures", *Proceedings of the 7th joint meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundation of Software Engineering (ESEC/FSE 2009)*, Amsterdam, The Netherlands, pp. 131-140, Aug. 2009. doi: 10.1145/1595696.1595718
- [CI23] D. Barbieri, V. Cardellini, S. Filippone, "Generalized GEMM kernels on GPGPUs: Experiments and applications", *Parallel Computing: From Multicores and GPU's to Petascale, Advances in Parallel Computing Vol. 19*, IOS Press, pp. 307-314, Apr. 2010. doi: 10.3233/978-1-60750-530-3-307
- [CI24] V. Cardellini, E. Casalicchio, V. Grassi, F. Lo Presti, R. Mirandola, "A scalable approach to QoS-aware self-adaption in service-oriented architectures", *Quality of Service in Heterogeneous Networks*, Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering Vol. 22, Springer, pp. 431-447, Nov. 2009. doi: 10.1007/978-3-642-10625-5_27
- [CI25] V. Cardellini, E. Casalicchio, V. Grassi, F. Lo Presti, R. Mirandola, "On guaranteeing global dependability properties in collaborative business process management", *International Workshop on Business System Management and Engineering (BSME 2010)*, June 2010.
- [CI26] V. Cardellini, S. Iannucci, "Designing a broker for QoS driven runtime adaptation of SOA applications", *Proceedings of the IEEE International Conference on Web Services (ICWS 2010)*, Miami, FL, pp. 504-511, July 2010. doi: 10.1109/ICWS.2010.77
- [CI27] A. Bellucci, V. Cardellini, V. Di Valerio, S. Iannucci, "A scalable and highly available brokering service for SLA-based composite services", *Proceedings of the 8th International Conference on Service Oriented Computing (ICSOC 2010)*, San Francisco, CA, Lecture Notes in Computer Science Vol. 6470, Springer, pp. 527-541, Dec. 2010. doi: 10.1007/978-3-642-17358-5_36
- [CI28] V. Cardellini, E. Casalicchio, V. Grassi, F. Lo Presti, "Adaptive management of composite services under percentile-based Service Level Agreements", *Proceedings of the 8th International Conference on Service Oriented Computing (ICSOC 2010)*, San Francisco, CA, Lecture Notes in Computer Science Vol. 6470, Springer, pp. 381-395, Dec. 2010. doi: 10.1007/978-3-642-17358-5_26
- [CI29] D. Barbieri, V. Cardellini, S. Filippone, D. Rouson, "Design patterns for scientific computations on sparse matrices", *Proceedings of Euro-Par 2011 Workshops, Part I*, Lecture Notes in Computer Science Vol. 7155, Springer, pp. 367-376, 2012. doi: 10.1007/978-3-642-29737-3_41
- [CI30] M. Abundo, V. Cardellini, F. Lo Presti, "Optimal admission control for a QoS-aware service-oriented system", *Proceedings of the 4th European ServiceWave Conference (ServiceWave 2011)*, Poznam, Poland, Lecture Notes in Computer Science Vol. 6994, Springer, pp. 179-190, Oct. 2011. doi: 10.1007/978-3-642-24755-2_17
- [CI31] V. Cardellini, V. Di Valerio, V. Grassi, S. Iannucci, F. Lo Presti, "A performance comparison of QoS-driven service selection approaches", *Proceedings of the 4th European ServiceWave Conference (ServiceWave 2011)*, Poznam, Poland, Lecture Notes in Computer Science Vol. 6994, Springer, pp. 167-178, Oct. 2011. doi: 10.1007/978-3-642-24755-2_16
- [CI32] V. Cardellini, E. Casalicchio, L. Silvestri, F. Lo Presti, "SLA-aware resource management for application service providers in the Cloud", *Proceedings of the IEEE 1st Symposium on Network Cloud Computing and Applications (NCCA 2011)*, Toulouse, France, pp. 20-27, Nov. 2011. doi: 10.1109/NCCA.2011.11
- [CI33] V. Cardellini, V. Di Valerio, V. Grassi, S. Iannucci, F. Lo Presti, "A new approach to QoS driven

- service selection in service oriented architectures", *Proceedings of the IEEE 6th International Symposium on Service-Oriented System Engineering (SOSE 2011)*, Irvine, CA, pp. 102-113, Dec. 2011. doi: 10.1109/SOSE.2011.6139098
- [CI34] V. Cardellini, S. Iannucci, "Designing a flexible and modular architecture for a private cloud: a case study", *Proceedings of the 6th International Workshop on Virtualization Technologies in Distributed Computing (VTDC 2012)*, Delft, The Netherlands, pp. 37-44, June 2012. doi: 10.1145/2287056.2287067
- [CI35] V. Di Valerio, V. Cardellini, F. Lo Presti, "Optimal pricing and service provisioning strategies in cloud systems: a Stackelberg game approach", *Proceedings of the IEEE 6th International Conference on Cloud Computing (CLOUD 2013)*, Santa Clara, CA, pp. 115-122, June 2013. doi: 10.1109/CLOUD.2013.102
- [CI36] D. Barbieri, V. Cardellini, S. Filippone, "Fast uniform grid construction on GPGPUs using atomic operations", *Parallel Computing: Accelerating Computational Science and Engineering (CSE)*, Advances in Parallel Computing Vol. 25, IOS Press, pp. 295-304, Mar. 2014. doi: 10.3233/978-1-61499-381-0-295
- [CI37] V. Cardellini, A. Fanfarillo, S. Filippone, "Heterogeneous sparse matrix computations on hybrid GPU/CPU platforms", *Parallel Computing: Accelerating Computational Science and Engineering (CSE)*, Advances in Parallel Computing Vol. 25, IOS Press, pp. 203-212, Mar. 2014. doi: 10.3233/978-1-61499-381-0-203
- [CI38] A. Ismail, V. Cardellini, "Towards self-adaptation planning for complex service-based systems", *Service-Oriented Computing – ICSOC 2013 Workshops*, Lecture Notes in Computer Science Vol. 8377, Springer, pp. 432-444, 2014. doi: 10.1007/978-3-319-06859-6_38
- [CI39] M. Abundo, V. Di Valerio, V. Cardellini, F. Lo Presti, "Bidding strategies in QoS-aware cloud systems based on N-armed bandit problems", *Proceedings of the 3rd IEEE Symposium on Network Cloud Computing and Applications (NCCA 2014)*, pp. 38-45, Roma, Italy, Feb. 2014. doi: 10.1109/NCCA.2014.15
- [CI40] D. Barbieri, V. Cardellini, S. Filippone, "Exhaustive key search on clusters of GPUs", *Proceedings of the 28th IEEE International Parallel & Distributed Processing Symposium Workshops*, pp. 1160-1168, 2014. doi: 10.1109/IPDPSW.2014.131
- [CI41] V. Cardellini, A. Fanfarillo, S. Filippone, "Sparse matrix computations on clusters with GPGPUs", *Proceedings of the 2014 International Conference on High Performance Computing and Simulation (HPCS 2014)*, IEEE, pp. 23-30, Bologna, Italy, July 2014. doi: 10.1109/HPCSim.2014.6903665
- [CI42] A. Ismail, V. Cardellini, "Decentralized planning for self-adaptation in multi-cloud environment", *Advances in Service-Oriented and Cloud Computing, Communications in Computer and Information Science Vol. 508*, pp. 76-90, Springer International Publishing Switzerland, 2015. doi: 10.1007/978-3-319-14886-1_9
- [CI43] A. Fanfarillo, T. Burnus, V. Cardellini, S. Filippone, D. Nagle, D. Rouson, "OpenCoarrays: open-source transport layers supporting coarray Fortran compilers", *Proceedings of the 8th International Conference on Partitioned Global Address Space Programming Models (PGAS 2014)*, ACM, pp. 4:1-4:11, Eugene, Oregon, Oct. 2014. doi: 10.1145/2676870.2676876
- [CI44] M. Abundo, V. Di Valerio, V. Cardellini, F. Lo Presti, "QoS-aware bidding strategies for VM spot instances: a reinforcement learning approach applied to periodic long running jobs", *Proceedings of the 14th IFIP/IEEE International Symposium on Integrated Network Management (IM 2015)*, pp. 53-61, Ottawa, ON, Canada, May 2015. doi: 10.1109/INM.2015.7140276
- [CI45] D. Barbieri, V. Cardellini, S. Filippone, "SIMPL: a pattern language for writing efficient kernels on GPGPU", *Proceedings of the 1st IEEE/ACM Int'l Workshop on Software Engineering for High Performance Computing in Science (SE4HPCS 2015)*, pp. 38-45, Florence, Italy, May 2015. doi: 10.1109/SE4HPCS.2015.13
- [CI46] V. Cardellini, V. Grassi, F. Lo Presti, M. Nardelli, "Distributed QoS-aware scheduling in Storm", *Proceedings of the 9th ACM International Conference on Distributed Event-Based Systems (DEBS 2015)*, pp. 344-347, Oslo, Norway, July 2015. doi: 10.1145/2675743.2776766
- [CI47] V. Cardellini, V. Grassi, F. Lo Presti, M. Nardelli, "On QoS-aware scheduling of data stream applications over fog computing infrastructures", *Proceedings of the 2015 IEEE Symposium on Computers and Communication (ISCC 2015)*, pp. 271-276, Larnaca, Cyprus, July 2015. doi:

10.1109/ISCC.2015.7405527

[CI48] V. Cardellini, M. D'Angelo, V. Grassi, M. Marzolla, R. Mirandola, "A decentralized approach to network-aware service composition", *Proceedings of the 4th European Conference on Service-Oriented and Cloud Computing (ESOCC 2015)*, Taormina, Italy, Lecture Notes in Computer Science Vol. 9306, Springer, pp. 34-48, September 2015. doi: 10.1007/978-3-319-24072-5_3

[CI49] V. Cardellini, A. Fanfarillo, S. Filippone, D. Rouson, "Hybrid coarrays: a PGAS feature for many-core architectures", *Parallel Computing: On the Road to Exascale, Advances in Parallel Computing Vol. 27*, IOS Press, pp. 175-184, April 2016. doi: 10.3233/978-1-61499-621-7-175

[CI50] V. Cardellini, A. Fanfarillo, S. Filippone, "Heterogeneous CAF-based load balancing on Intel Xeon Phi", *Proceedings of the 2016 IEEE International Parallel & Distributed Processing Symposium Workshops*, pp. 702-711, 2016. doi: 10.1109/IPDPSW.2016.51

[CI51] V. Cardellini, V. Grassi, F. Lo Presti, M. Nardelli, "Optimal operator placement for distributed stream processing applications", *Proceedings of the 10th ACM International Conference on Distributed and Event-Based Systems (DEBS 2016)*, Irvine, CA, USA, pp. 69-80, June 2016. doi: 10.1145/2933267.2933312

[CI52] G. Marciani, M. Piu, M. Porretta, M. Nardelli, V. Cardellini, "Real-time analysis of social networks leveraging the Flink framework", *Proceedings of the 10th ACM International Conference on Distributed and Event-Based Systems (DEBS 2016)*, Irvine, CA, USA, pp. 386-389, June 2016. doi: 10.1145/2933267.2933517

[CI53] V. Cardellini, M. Nardelli, D. Luzi, "Elastic stateful stream processing in Storm", *Proceedings of the 2016 International Conference on High Performance Computing & Simulation (HPCS 2016)*, IEEE, pp. 583-590, Innsbruck, Austria, July 2016. doi: 10.1109/HPCSim.2016.7568388

[CI54] V. Cardellini, V. Grassi, F. Lo Presti, M. Nardelli, "Joint operator replication and placement optimization for distributed streaming applications", *InfQ 2016 - New Frontiers in Quantitative Methods in Informatics*, Taormina, Italy, October 25, 2016. Proceedings of the 10th EAI International Conference on Performance Evaluation Methodologies and Tools, ACM, pp. 263-270, 2017. doi: 10.4108/eai.25-10-2016.2266628

[CI55] A. Abdullahi Hassan, V. Cardellini, S. Filippone, "A framework for unit testing with Coarray Fortran", *Proceedings of the 25th High Performance Computing Symposium (HPC 2017)*, Virginia Beach, VA, USA, April 23-26, 2017, The Society for Modeling and Simulation International, pp. 5:1-5:12. doi:10.22360/springsim.2017.hpc.014

[CI56] V. Cardellini, F. Lo Presti, M. Nardelli, G. Russo Russo, "Towards hierarchical autonomous control for elastic data stream processing in the fog", *Euro-Par 2017: Parallel Processing Workshops, Lecture Notes in Computer Science Vol. 10659*, Springer, pp. 106-117, February 2018. doi: 10.1007/978-3-319-75178-8_9

[CI57] A. Abdullahi Hassan, V. Cardellini, S. Filippone, "Solving sparse linear systems of equations using CAF", *Parallel Computing is Everywhere, Advances in Parallel Computing Vol. 32*, pp. 87-96, IOS Press, 2018. doi: 10.3233/978-1-61499-843-3-87

[CI58] V. Cardellini, F. Lo Presti, M. Nardelli, G. Russo Russo, "Auto-scaling in data stream processing applications: A model based reinforcement learning approach", *InfQ 2017 - New Frontiers in Quantitative Methods in Informatics*, Venice, Italy, December 4, 2017. Communications in Computer and Information Science Vol. 825, pp. 97-110, Springer, May 2018. doi: 10.1007/978-3-319-91632-3_8

[CI59] M. Nardelli, V. Cardellini, E. Casalicchio, "Multi-level elastic deployment of containerized applications in geo-distributed environments", *Proceedings of the IEEE 6th International Conference on Future Internet of Things and Cloud (FiCloud 2018)*, Barcelona, Spain, August 6-8, 2018, pp. 1-8. doi: 10.1109/FiCloud.2018.00009

[CI60] M. Nardelli, G. Russo Russo, V. Cardellini, F. Lo Presti, "A multi-level elasticity framework for distributed data stream processing", *Euro-Par 2018: Parallel Processing Workshops, Lecture Notes in Computer Science Vol. 11339*, Springer, pp. 53-64, March 2019. doi: 10.1007/978-3-030-10549-5_5

[CI61] S. Iannucci, O. D. Barba, V. Cardellini, I. Banicescu, "A performance evaluation of deep reinforcement learning for model-based intrusion response", *Proceedings of the 2019 IEEE 4th International Workshops on Foundations and Applications of Self* Systems (FAS*W)*, pp. 158-163, 2019. doi: 10.1109/FAS-W.2019.00047

[CI62] G. Russo Russo, V. Cardellini, F. Lo Presti, "Reinforcement learning based policies for elastic stream processing on heterogeneous resources", *Proceedings of the 13th ACM International Conference on Distributed and Event-based Systems (DEBS 2019)*, pp. 31-42, Darmstadt, Germany,

June 24-28 2019. doi: 10.1145/3328905.3329506

[CI63] F. Rossi, V. Cardellini, F. Lo Presti, "Elastic deployment of software containers in geo- distributed computing environments", *Proceedings of the 2019 IEEE Symposium on Computers and Communications (ISCC 2019)*, pp. 1–8, Barcelona, Spain, June 29-July 3 2019. doi: 10.1109/ISCC47284.2019.8969607

[CI64] F. Rossi, M. Nardelli, V. Cardellini, "Horizontal and vertical scaling of container-based applications using reinforcement learning", *Proceedings of the 2019 IEEE International Conference on Cloud Computing (IEEE CLOUD 2019)*, pp. 329–338, Milan, Italy, July 8-13 2019. doi: 10.1109/CLOUD.2019.00061

[CI65] V. Cardellini, F. Lo Presti, M. Nardelli, F. Rossi, "Self-adaptive container deployment in the fog: A survey", *5th International Symposium on Algorithmic Aspects of Cloud Computing (ALGO CLOUD 2019)*, Munich, Germany, September 10, 2019. Lecture Notes in Computer Science Vol. 12041, Springer, pp. 77–102, August 2020. doi: 10.1007/978-3-030-58628-7_6

[CI66] G. Belocchi, V. Cardellini, A. Cammarano, G. Bianchi, "Paxos in the NIC: hardware acceleration of distributed consensus protocols", *Proceedings of the 16th International Conference on the Design of Reliable Communication Networks (DRCN 2020)*, pp. 1–6, IEEE, Milan, Italy, March 24-27 2020. doi: 10.1109/DRCN48652.2020.1570611009

[CI67] F. Rossi, V. Cardellini, F. Lo Presti, "Hierarchical scaling of microservices in Kubernetes", *Proceedings of the 2020 IEEE International Conference on Autonomic Computing and Self-Organizing Systems (ACSOS 2020)*, pp. 28-37, IEEE, Washington, DC, Washington, USA, August 17-21 2020. doi: 10.1109/ACSOS49614.2020.00023

[CI68] F. Rossi, V. Cardellini, F. Lo Presti, "Self-adaptive threshold-based policy for microservices elasticity", *Proceedings of the 28th IEEE Symposium on the Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (MASCOTS 2020)*, 8 pages, Nice, France, November 17-19 2020. doi: 10.1109/MASCOTS50786.2020.9285951

[CI69] G. Russo Russo, A. Schiazza, V. Cardellini, "Elastic Pulsar functions for distributed stream processing", *Companion of the ACM/SPEC International Conference on Performance Engineering (ICPE '21)*, pp. 9–16, ACM. doi: 10.1145/3447545.3451901

[CI70] G. Russo Russo, V. Cardellini, G. Casale, F. Lo Presti, "MEAD: Model-based vertical auto-scaling for data stream processing", *Proceedings of the 21st IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CCGrid 2021)*, pp. 314–323, Melbourne, Victoria, Australia, May 11-13 2021. doi: 10.1109/CCGrid51090.2021.00041

[CI71] F. Rossi, S. Falvo, V. Cardellini, "GOFs: Geo-distributed scheduling in OpenFaaS", *Proceedings of the 2021 IEEE Symposium on Computers and Communication (ISCC 2021)*, 6 pages, 2021. doi: 10.1109/ISCC53001.2021.9631492

[CI72] S. Iannucci, J. Ables, W. Anderson, B. Abburi, V. Cardellini, I. Banicescu, "A performance-oriented comparison of neural network approaches for anomaly-based intrusion detection", *Proceedings of the 2021 IEEE Symposium Series on Computational Intelligence (SSCI 2021)*, 7 pages, 2021. doi: 10.1109/SSCI50451.2021.9660100

[CI73] G. Russo Russo, A. Milani, S. Iannucci, V. Cardellini, "Towards QoS-aware function composition scheduling in Apache OpenWhisk", *2022 IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events (PerCom Workshops)*, pp. 693–698. doi: 10.1109/PerComWorkshops53856.2022.9767299

[CI74] C. Calavaro, G. Russo Russo, V. Cardellini, "Real-time analysis of market data leveraging Apache Flink", *Proceedings of the 16th ACM International Conference on Distributed and Event-Based Systems (DEBS 2022)*, pp. 162–165, Copenhagen, Denmark, June 27-30, 2022. doi: 10.1145/3524860.3539650

[CI75] P. Raith, T. Rausch, F. Rossi, V. Cardellini, S. Dustdar, R. Ranjan, "Mobility-aware serverless function adaptations across the edge-cloud continuum", *Proceedings of the 15th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2022)*, Portland, OR, USA, December 6-9, 2022.

- [2016-2018] Responsabile dell'unità dell'Università di Roma "Tor Vergata" dall'1/11/2016 per EU Horizon 2020 "Energy oriented Centre of Excellence (EoCoE) for computing applications", Grant Agreement Number: 676629
- [2013-2017] Delegato nazionale (Management Committee member) per l'Italia della COST Action "IC1304: Autonomous Control for a Reliable Internet of Services (ACROSS)"
- [2016] Responsabile dell'unità dell'Università di Roma "Tor Vergata" per il tender "Realization of a research and development project (pre-commercial procurement) on Cloud for Europe" (Tender no. 5843932, FP7-610650), Phase I (solution design) for Lots 1, 2 and 3
- [2015-2016] Responsabile dell'unità dell'Università di Roma "Tor Vergata" dall'1/11/2015 di HOME/2013/ISEC/FINEC/4000005234 "System for prevention and combat identity theft (SYPCIT)", finanziato dalla Commissione Europea
- [2002] Responsabile del progetto di ricerca annuale "Server proxy cooperativi per l'accesso universale al Web" nell'ambito del Progetto giovani ricercatori 2001 dell'Università di Roma "Tor Vergata"
- [1999] Responsabile dell'IBM Research Grant per attività di ricerca in cooperazione con il Dr. Philip Yu, IBM TJ Watson Research Center

Progetti di Ricerca Internazionali - Partecipazione

- [2020-2024] "RELYSOFT: Reliable and Safe Complex Software Systems: From Empirical Principles to Theoretical Models in View of Industrial Applications", finanziato da Croatian Science Foundation
- [2018] MSU "Global Discovery" Seed Grant Program "Autonomic security for next generation health care systems", finanziato da Mississippi State University (MSU)
- [2015-2016] EU Horizon 2020 "Energy oriented Centre of Excellence (EoCoE) for computing applications", (Grant Agreement Number: 676629), in qualità di membro dell'unità di Roma "Tor Vergata"
- [2014-2015] HOME/2013/ISEC/FINEC/4000005234 "System for prevention and combat identity theft (SYPCIT)", finanziato dalla Commissione Europea, in qualità di membro dell'unità di Roma "Tor Vergata"
- [2014] EU FP7 IST-318784 STP "TROPIC: Distributed computing, storage and radio resource allocation over cooperative femtocells", in qualità di collaboratrice del CINI
- [2013-2015] Progetto RM64400 FRGS "A robust multi-layer planning model for a self-adaptive service-based framework", finanziato dal Ministry of Higher Education (MOHE) della Malesia nell'ambito del Fundamental Research Grant Scheme (FRGS)
- [2012-2014] Progetto FAPESP 2011/09524-7 "Development and evaluation of new computational techniques to enable the provision of quality service in SOA architectures", finanziato da Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), Brasile

Progetti di Ricerca Nazionali - Partecipazione

- [2021-2022] "Earth in the Cloud" finanziato da POR FESR Lazio 2014-2020 (Azione 1.2.1)
- [2015-2018] Progetto SIR 2014 "Multidimensional Single-cell microfluidic Impedance Cytometry (MUSIC)"
- [2009-2011] Progetto PRIN 2007 "D-ASAP: Architetture Software Adattabili e Affidabili per Sistemi Pervasivi"
- [2005-2008] Progetto PON Ricerca 2000-2006 "Centro Computazionale di RicErc sui Sistemi Complessi - CRESCO", sottoprogetto "Analisi delle interdipendenze nelle reti complesse"
- [2002-2006] Progetto FIRB 2001 "Middleware per servizi evoluti su sistemi distribuiti wired-wireless di grandi dimensioni" (Wide-scalE, Broadband, Middleware for Network Distributed Services - WEB MINDS)
- [2002-2006] Progetto FIRB 2001 "Valutazione delle prestazioni dei sistemi complessi: tecniche, metodologie e strumenti" (Performance Evaluation of Complex Systems: Techniques, Methodologies, and Tools - Perf)
- [2002-2005] Progetto biennale CNR 2002 "SP1 Reti Internet: efficienza, integrazione e sicurezza", nell'ambito delle attività "Simulazione di reti Internet" e "Algoritmi per l'ottimizzazione della QoS in Internet"
- [2002-2003] Progetto biennale MIUR Cofinanziato 2001 "Sistemi Web ad elevata qualità del servizio"
- [2002-2003] Progetto CNR-Agenzia 2000 "Griglie computazionali e applicazioni"
- [1998-1999] Progetto biennale MURST Cofinanziato "Metodologie e strumenti di progetto di sistemi ad alte prestazioni per applicazioni distribuite"

Riconoscimenti e Premi

- [2021] Inclusa nella classifica, pubblicata in PLoS Biology, del 2% top-scientists per la carriera e per l'anno 2020 (<https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3>)

- [2021] Best paper award a 1st IEEE International Workshop on Distributed and Intelligent Systems (DistInSys 2021)
- [2020] Inclusa nella classifica, pubblicata in PLoS Biology, del 2% top-scientists per l'anno 2019 (doi: 10.1371/journal.pbio.3000918, Table S7-singleyr-2019)
- [2016] Honorable mention paper award a 10th ACM International Conference on Distributed and Event-Based Systems (DEBS 2016)
- [2015] Best poster award a 9th ACM International Conference on Distributed Event-Based Systems (DEBS 2015)
- [2011] Best paper award a IEEE 6th International Symposium on Service-Oriented System Engineering (SOSE 2011)

Abilitazioni

- [2019] Abilitazione Scientifica Nazionale (bando 2018), settore concorsuale 09/H1 (Sistemi di elaborazione delle informazioni), prima fascia
- [2017] Abilitazione Scientifica Nazionale (bando 2016), settore concorsuale 01/B1 (Informatica), prima fascia
- [Maggio 1998] Abilitazione all'esercizio della professione di Ingegnere con la votazione di 118/120

Keynote Talk, Invited Talk, Corsi di Dottorato, Tutorial e Seminari su Invito

- *Keynote talk*: "Placing applications in large-scale distributed and heterogeneous environments", IEEE 24th Int'l Symposium on Modeling, Analysis and Simulation of Computer and Telecommunications Systems (MASCOTS 2016), London, UK, September 19, 2016.
- *Invited talk*: "Self-adaptation for streaming analytics at the edge", International Workshop on Container-based Systems for Big Data, Distributed and Parallel Computing (CBDP 2018), in conjunction with Euro-Par 2018, Turin, Italy, August 27, 2018.
- *Invited talk*: "Decentralized self-adaptation for elastic data stream processing", 13th Cloud Control Workshop, Skavsjoholm, Sweden, June 15, 2018.
- *Invited talk*: "Web: the engineering perspective", 1st International Global Governance Symposium, Rome, Italy, July 13, 2017.
- *Invited talk*: "Deploying data streaming applications in the Fog", 2nd Workshop Through the Fog, Pisa, Italy, February 24, 2017.
- *Corso di dottorato*: "Cross layer latency control for Big Data Analytics over fog/edge computing, part I", International Summer School on Latency Control for Internet of Services, Karlstad, Sweden, June 30, 2017.
- *Corso di dottorato*: "Toward large-scale distributed stream processing: models, systems and challenges, part I", 2nd International Summer School on Autonomous Control for Reliable Future Networks and Services, Opatija, Croatia, May 30, 2016.
- *Corso di dottorato*: "QoS in Service Oriented Architectures", Summer School on Computational Mathematics, Statistics and Computer Science, University of São Paulo, Brazil, February 9, 2009.
- *Tutorial*: V. Cardellini, F. Lo Presti, G. Russo Russo, "Reinforcement learning for run-time performance management in the Cloud/Edge", 39th International Symposium on Computer Performance, Modeling, Measurements and Evaluation 2021 (Performance 2021), Milan, Italy, 8 November, 2021.
- *Tutorial*: M. Colajanni, M. Andreolini, V. Cardellini, "Benchmarking of locally and geographically distributed Web-server systems", 12th International World Wide Web Conference, Budapest, Hungary, May 2003.
- *Tutorial*: M. Andreolini, V. Cardellini, M. Colajanni, "Benchmarking models and tools for distributed Web server systems", IFIP WG 7.3 International Symposium on Computer Modeling, Measurement and Evaluation (Performance 2002), Roma, Italy, Sept. 2002.
- *Tutorial*: M. Colajanni, P.S. Yu, V. Cardellini, "Scalable Web server systems: Architectures, models, and load balancing algorithms", ACM International Conference on Measurement and Modeling of Computer Systems (ACM Sigmetrics 2000), Santa Clara, CA, June 2000.
- *Seminario*: "Elasticità nel Cloud computing", Workshop CIPA 2015 Le banche verso il cloud: un approccio agile al business digitale, organizzato dalla Banca d'Italia, Roma, 18 dicembre 2015.
- *Seminario*: "Non-cooperative computation offloading in mobile cloud computing", Joint CLEEN and ACROSS Workshop on Cloud Technology and Energy Efficiency in Mobile Communications, in conjunction with EUCNC 2015, Paris, France, June 29, 2015.
- *Seminario*: "A decentralized approach to network-aware service composition", COST ACROSS WG1-3 meeting, Wurzburg, Germany, April 17 2015.
- *Seminario*: "Cloud computing: introduction and challenges", Enterprise Applications for

Cloud Workshop, Villa Mondragone, Roma, 29 gennaio 2015.

- *Seminario*: "Introduzione al Cloud computing", Dipartimento di Informatica, Università di Roma "La Sapienza", settembre 2013.
- *Seminario*: "Il Cloud computing: definizioni, classificazioni, benefici, costi, SLA", convegno "Il procurement di Servizi di Cloud Computing: l'Esperienza delle Imprese Italiane", organizzato dal Master in Procurement dell'Università di Roma "Tor Vergata", 17 novembre 2011.
- *Seminario*: "Monitoraggio dei Service Level Agreement nel Cloud computing", convegno "Il procurement del Cloud Computing: Sfide e Opportunità" organizzato dal Master in Procurement dell'Università di Roma "Tor Vergata", 10 marzo 2011.
- *Seminario*: "Cloud computing: principi, criticità, prospettive", convegno *Sviluppo, futuro e integrazione dei servizi Cloud*, organizzato da JEK POT srl, Roma, 24 giugno 2010.
- *Seminario*: "Design of self-adaptive SOA systems", Dept. of Computer Systems, University of São Paulo, Brazil, 11 febbraio 2009.

Relatrice di Tesi

- Dal 2015 relatrice di 7 tesi di dottorato di ricerca (Gabriele Russo, Fabiana Rossi, Steve Nicola Antonio Petruzza, Matteo Nardelli, Davide Barbieri, Alessandro Fanfarillo, Stefano Iannucci) presso l'Università di Roma "Tor Vergata"
- Dal 2008 relatrice di 98 *tesi di Laurea Magistrale/Specialistica* in Ingegneria Informatica presso l'Università di Roma "Tor Vergata"
- Dal 2004 relatrice 46 *tesi di Laurea* in Ingegneria Informatica e dal 2019 di 2 *tesi di Laurea* in Global Governance presso l'Università di Roma "Tor Vergata"

Comitati Editoriali di Riviste Internazionali

Guest Editor per Riviste Internazionali

- Dal 2020 Associate Editor di IEEE Transactions of Parallel and Distributed Systems
- Dal 2021 Associate Editor di Journal of Parallel and Distributed Computing (Elsevier)
- [2019-2020] Big Data Research (Elsevier), Special issue "Big Data in Industrial and Commercial Applications"
- [2018-2020] Parallel Computing (Elsevier), Special Issue on "Data Stream Processing in HPC Systems: New Frameworks and Architectures for High Frequency Streaming"
- [2017-2018] Future Generation Computer Systems (Elsevier), Special Issue on "New Landscapes of the Data Stream Processing in the era of Fog Computing"
- *General co-chair* di 14th ACM/SPEC International Conference on Performance Engineering (ICPE 2023), Coimbra, Portugal, April 2023
- *Workshop co-chair* di 4th International Workshop on Self-Protecting Systems (SPS 2022), tenuto congiuntamente a ACSOS 2022
- *Program co-chair* di Industry and Application Track alla 16th ACM International Conference on Distributed and Event-based Systems (DEBS 2022), Copenhagen, Denmark, July 2022
- *Workshop co-chair* di 4th International Workshop on Autonomic Solutions for Parallel and Distributed Data Stream Processing (Auto-DaSP 2021), tenuto congiuntamente a ACM/SPEC ICPE 2021
- *Program co-chair* di 2020 IEEE International Conference on Fog Computing (ICFC 2020), Sydney, Australia, April 21-24, 2020
- *Workshop co-chair* di 3rd International Workshop on Autonomic Solutions for Parallel and Distributed Data Stream Processing (Auto-DaSP 2019), tenuto congiuntamente a Euro-Par 2019
- *Program co-chair* di 11th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2018), Zurich, Switzerland, December 17-20, 2018
- *Workshop co-chair* di 2nd International Workshop on Autonomic Solutions for Parallel and Distributed Data Stream Processing (Auto-DaSP 2018), tenuto congiuntamente a Euro-Par 2018
- *Workshop co-chair* di International Workshop on Autonomic Solutions for Parallel and Distributed Data Stream Processing (Auto-DaSP 2017), tenuto congiuntamente a Euro-Par 2017
- *Workshop co-chair* di International Workshop on Autonomics and Big Data Analytics (ASBDA 2017), tenuto congiuntamente a IEEE ICACC 2017 e IEEE SASO 2017
- *Workshop co-chair* di International Workshop on Autonomous Control for Performance and Reliability Trade-offs in Internet of Services (ACPROSS 2017), tenuto congiuntamente a ACM/SPEC ICPE 2017
- *Tutorials chair* di 8th ACM/SPEC International Conference on Performance Engineering (ICPE 2017)
- *Workshop co-chair* di 3rd International Workshop on Advanced Architectures and Algorithms for Internet Delivery and Applications (AAA-IDEA 2009), tenuto congiuntamente a QSHINE 2009

Chair in Conferenze e Workshop Internazionali

Membro di comitati tecnici di
conferenze internazionali

Membro del TPC di più di 80 conferenze e workshop internazionali, tra cui The Web Conference 2019, 2020 e 2023, IEEE ICDCS 2022, ACSOS dal 2020 al 2022, Euro-Par 2022, ACM/SPEC ICPE dal 2020 al 2022, IEEE MASCOTS dal 2013 al 2017 e dal 2020 al 2022, WWW 2007.

Revisore per Riviste Internazionali

Revisore per oltre 250 articoli scientifici sottoposti per pubblicazione a riviste internazionali, tra cui ACM Transactions on Autonomous and Adaptive Systems, ACM Transactions on Software Engineering and Methodology, ACM Transactions on Modeling and Performance Evaluation of Computing Systems, ACM Transactions on Mathematical Software, ACM Transactions on the Web, ACM Transactions on Internet Technology, ACM Computing Surveys, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Services Computing, IEEE Transactions on Software Engineering, IEEE Transactions on Wireless Communications, IEEE Transactions on Vehicular Technology, IEEE Transactions on Computers, IEEE Transactions on Knowledge and Data Engineering, IEEE Transactions on Network and Service Management, Computer Networks, Information Science, Performance Evaluation, Journal of Systems and Software

Revisore per Progetti Scientifici

[2020] Generic Call for Proposals 2020 (AAPG 2020), French National Research Agency (ANR), France
[2018] "Doctoral (PhD) grant strategic basic research (SB) SBWT50 - Informatics and data communication", Research Foundation - Flanders (FWO), Belgium
[2013] Programma "Futuro in Ricerca", MIUR
[2009] Revisore nell'ambito della Millennium Science Initiative (MSI) in Cile dell'attività di ricerca svolta nel 2008 e nel 2005-2008 dal MSI Nucleus Center for Web Research

Commissario, Controrelatrice e
Revisore di Tesi di Dottorato di
Ricerca

Commissario per l'esame finale
[2021] "Resource Management for Data Stream Processing in Geo-Distributed Environments", Hamidreza Arkian, Université de Rennes 1, France.
[2020] "Scheduling Solutions for Data Stream Processing Applications on Cloud-Edge Infrastructure", Felipe Rodrigo de Souza, Ecole Normale Supérieure de Lyon, France.
[2020] "Predictive Approaches for Resource Provisioning in Distributed Systems" Michael Borkowski, TU Wien, Austria.
[2020] "Task Placement and Resource Allocation in Edge Computing Systems", Sladana Josilo, KTH Royal Institute of Technology, Stockholm, Sweden.
[2019] PhD Program in Computer Science, Sapienza University of Rome, Italy (12 theses, 2 sessions).
[2017] PhD Program in Computer Science, Sapienza University of Rome, Italy (14 theses, 2 sessions).
[2017] PhD Program in Information Technology, Politecnico di Milan, Italy (2 theses).
Controrelatrice
[2022] "Efficient Data Streaming Analytic Designs for Parallel and Distributed Processing", Hannaneh Najdataei, Chalmers University of Technology, Gothenburg, Sweden.
[2019] "Performance Implications of Virtualization", Sogand Shirinbab, Blekinge Institute of Technology, Karlskrona, Sweden.
[2018] "Resource Allocation for Mobile Edge Clouds" by Amardeep Mehta, Umea University, Sweden.
Revisore esterno
[2021] "Machine Learning-based Energy and Thermal Efficient Resource Management Algorithms for Cloud Data Centres" Shashikant Ilager, University of Melbourne, Australia.
[2021] "Distributed Data Stream Processing and Task Placement on Edge-Cloud Infrastructure", Gayashan N. Amarasinghe, University of Melbourne, Australia.
[2019-2020] "Predictive Approaches for Resource Provisioning in Distributed Systems", Michael Borkowski, TU Wien, Austria.
[2018] "New Horizons for Stream Processing", Lorenzo Affetti, Politecnico di Milan, Italy.
[2018] "Task Scheduling in Data Stream Processing Systems", Leila Eskandari, University of Otago, New Zealand.
[2018] "Code Offloading and Resource Management Algorithms for Heterogeneous Mobile Clouds" Bowen Zhou, University of Melbourne, Australia.
[2017] "Auto-scaling and Deployment of Web Applications in Distributed Computing Cloud", Chenhao Qu, University of Melbourne, Australia.
[2016] "Towards Sustainable Solutions for Applications in Cloud Computing and Big Data", Nguyen Thi Thao Ho, Politecnico di Milan, Italy.
[2009] "Utility-Oriented Internetworking of Content Delivery Networks", Al-Mukaddim K. Pathan, University of Melbourne, Australia.

Attività istituzionali

[2012-oggi]: responsabile del programma Erasmus+ per il corso di studi in Ingegneria Informatica dell'Università di Roma "Tor Vergata"

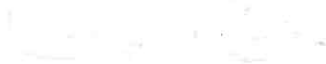
[2015-2016] Commissario del concorso per 8 tenenti in Guardia di Finanza
[2016] Commissario della procedura comparativa per 1 professore di 2° fascia SC 09/H1 presso Università dell'Insubria
[2020] Commissario della procedura selettiva per 1 RTD-A SC 09/H1 presso Sapienza Università di Roma
[2020] Commissario della procedura selettiva per 1 professore di 2° fascia SC 09/H1 presso Università Niccolò Cusano
[2021] Commissario della procedura selettiva per 1 RTD-B SC 09/H1 presso Università di Pisa
[2021] Commissario della procedura selettiva per 3 RTD-B SC 09/H1 presso Politecnico di Milano
[2022] Commissario della procedura selettiva per 1 RTD-B SC 09/H1 presso Università di Padova

Appartenenza ad associazioni professionali

[1998-] Membro di IEEE e IEEE Computer Society
[1999-] Membro di Association for Computing Machinery (ACM)

Dati personali

Autorizzo il trattamento dei dati personali contenuti nel mio curriculum vitae in base all'art. 13 GDPR 679/2016.

Firma

Roma, 4 novembre 2022