

Matteo Nardelli

Aggiornamento: 23 Gennaio 2026

Web e CV: matteonardelli.it

Profili: DBLP · Google Scholar · ORCID · Scopus · Web of Science

1 Descrizione Breve

Matteo Nardelli è ICT Expert presso la Banca d'Italia. Ha conseguito il Dottorato di Ricerca con European Label in Computer Science, Control and GeoInformation presso l'Università di Roma "Tor Vergata" nel 2018, con una tesi su tecniche QoS-aware per il deployment e l'adattamento di applicazioni di data stream processing in ambienti geo-distribuiti. È stato Visiting Researcher presso la TU Wien nel gruppo di Distributed Systems.

La sua attività di ricerca si colloca nell'ambito dei sistemi distribuiti, con particolare attenzione alla gestione run-time e all'ottimizzazione di applicazioni e servizi su infrastrutture cloud, edge e serverless, includendo problemi di scheduling, scalabilità ed elasticità. Negli ultimi anni, la sua ricerca si è estesa anche ai sistemi di pagamento decentralizzati e alle Distributed Ledger Technologies, includendo architetture per CBDC, payment channel networks e l'integrazione di primitive crittografiche avanzate in protocolli distribuiti. È co-autore di oltre 45 pubblicazioni peer-reviewed tra riviste, capitoli di libro e atti di conferenze internazionali; alcuni lavori hanno ricevuto riconoscimenti come best poster award e honorable mention. Secondo Google Scholar (gennaio 2026), le sue pubblicazioni hanno raccolto oltre 2900 citazioni, con h-index 21.

Svolge attività di servizio alla comunità scientifica internazionale: ha ricoperto il ruolo di Guest Editor dello Special Issue "Scalable Compute Continuum" su Future Generation Computer Systems, è co-organizzatore del workshop internazionale WSCC co-locato con Euro-Par, ed è stato membro di diversi Program Committee di conferenze e workshop internazionali (tra cui ACM DEBS, IEEE CCGrid, DS-RT, IEEE ICBC, ICDCS, CLOSER, UCC). È inoltre membro del Review Board di IEEE Transactions on Parallel and Distributed Systems.

2 Formazione

2014-2018 Ph.D. European Label in Computer Science, Control and GeoInformation (Ciclo XXX) presso l'Università di Roma Tor Vergata. Tesi: "QoS-aware Deployment and Adaptation of Data Stream Processing Applications in Geo-distributed Environments".

2012-2014 Laurea Magistrale con lode in Ingegneria Informatica presso l'Università di Roma Tor Vergata. Tesi: "Un approccio network-aware per il data stream processing".

2008-2012 Laurea Triennale con lode in Ingegneria Informatica presso l'Università di Roma Tor Vergata. Tesi: "Analisi e simulazioni di protocolli d'accesso throughput-ottimali per le reti wireless".

3 Esperienza Lavorativa

Posizione Attuale

Nov 2021 ICT Expert presso la Banca d'Italia – Eurosystem, Centro Donato Menichella, Frascati (Rome), Italy.

Esperienze Precedenti

Dic 2018–Ott 2021 Ricercatore ed ingegnere del software presso Code Architects Automation, Santeramo in Colle (Bari), Italia.

Nov 2017–Ott 2018 Assegnista di ricerca (SSD ING-INF/05) presso l'Università di Roma Tor Vergata.

Sett 2016–Feb 2017 Visiting Researcher presso TU Wien (Technische Universität Wien), Austria, nel gruppo Distributed Systems diretto da Schahram Dustdar e nell'unità guidata da Stefan Schulte.

4 Premi e Riconoscimenti

2020 Incluso nel ranking, pubblicato in PLoS Biology (10.1371/journal.pbio.3000918, Table S7-singleyr-2019), del 2% top-scientists per l'anno 2019.

2018 SPEC Kaivalya Dixit Distinguished Dissertation Award per la tesi di dottorato dal titolo “QoS-aware Deployment and Adaptation of Data Stream Processing Applications in Geo-distributed Environments”.

2016 Honorable mention paper award per [IC5] alla 10th ACM International Conference on Distributed and Event-Based Systems (DEBS 2016).

2015 Best poster award per [IC1] alla 9th ACM International Conference on Distributed Event-Based Systems (DEBS 2015).

Abilitazione Scientifica Nazionale

2024 II fascia, 09/H1 - Sistemi di Elaborazione delle Informazioni (ASN 2023/2025, II Quadr.).

2021 II fascia, 01/B1 - Informatica (ASN 2018/2020, VI Quadr.).

5 Attività Didattica Universitaria

Corsi di Dottorato

A.A. 2023/24 “Foundations of blockchain: data structures, programmability, consensus, and beyond”, 10 ore, in Computer Science, Control and GeoInformation presso l'Università di Roma Tor Vergata (Italia).

Corsi per la Laurea Magistrale

- A.A. 2024/25, 2023/24, 2022/23** “Sistemi e architetture per Big Data” (1 CFU su 6 CFU del corso) insegnato con Prof. Valeria Cardellini; per la Laurea Magistrale in Ingegneria Informatica presso l’Università di Roma Tor Vergata (Italia).
- A.A. 2021/22, 2017/18, 2016/17** “Sistemi ed Applicazioni di Data Stream Processing” (2 CFU), “Data Stream Processing Systems and Applications”, corso integrativo di “Sistemi ed Architetture per Big Data”; per la Laurea Magistrale in Ingegneria Informatica presso l’Università di Roma Tor Vergata (Italia).

Corsi Brevi per Master Universitari

- A.A. 2017/18, 2016/17, 2015/16** “Laboratorio di Big Data” (4 CFU) Master di I livello in Data Science, presso l’Università di Roma Tor Vergata (Italia).
- A.A. 2017/18, 2016/17** Ciclo di lezioni “Laboratorio di MapReduce con Hadoop”, Master di II livello in Customer Experience & Social Media Analytics (CESMA), presso l’Università di Roma Tor Vergata (Italia).

Supervisione di Tesi di Laurea

Ho supervisionato 2 tesi di Laurea Triennale e 23 tesi di Laurea Magistrale.

6 Pubblicazioni

Articoli su Riviste Peer-reviewed

- J1.** 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, May 2017. doi: 10.1145/3092819.3092823.
- J2.** M. Nardelli, S. Nastic, S. Dustdar, M. Villari, R. Ranjan, “Osmotic Flow: Osmotic Computing + IoT Workflow”, *IEEE Cloud Computing*, vol. 4, no. 2, pp. 68–75, 2017. doi: 10.1109/MCC.2017.22.
- J3.** O. Skarlat, M. Nardelli, S. Schulte, M. Borkowski, P. Leitner, “Optimized IoT Service Placement in the Fog”, *Service Oriented Computing and Applications*, vol. 11, no. 4, pp. 427–443, 2017. doi: 10.1007/s11761-017-0219-8.
- J4.** 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 and Experience*, vol. 30, no. 9, 2018. doi: 10.1002/cpe.4334.
- J5.** 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, 2018. doi: 10.1016/j.future.2018.05.025.
- J6.** G. Russo Russo, M. Nardelli, V. Cardellini, F. Lo Presti, “Multi-Level Elasticity for Wide-Area Data Streaming Systems: A Reinforcement Learning Approach”, *Algorithms*, vol. 11(9), 2018. doi: 10.3390/a11090134.

- J7.** M. Borkowski, W. Fdhila, M. Nardelli, S. Rinderle-Ma, S. Schulte, “Event-based Failure Prediction in Distributed Business Processes”, *Information Systems*, Vol. 81, pp. 220–235, 2019. doi: 10.1016/j.is.2017.12.005.
- J8.** 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, 2019. doi: 10.1109/TPDS.2019.2896115. Supplemental Materials.
- J9.** F. Rossi, V. Cardellini, F. Lo Presti, M. Nardelli, “Geo-distributed efficient deployment of containers with Kubernetes”, *Computer Communications*, vol. 159, pp. 161–174, 2020. doi: 10.1016/j.comcom.2020.04.061.
- J10.** 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, art. 237, 36 pages, Jan. 2022. doi: 10.1145/3514496. Online Appendix.
- J11.** F. Rossi, V. Cardellini, F. Lo Presti, M. Nardelli, “Dynamic Multi-metric Thresholds for Scaling Applications Using Reinforcement Learning”, *IEEE Transactions on Cloud Computing*, vol. 11, no. 2, pp. 1807–1821, April-June 2023. doi: 10.1109/TCC.2022.3163357.
- J12.** A. Cimatti, F. De Sclavis, G. Galano, S. Giammusso, M. Iezzi, A. Muci, M. Nardelli, M. Pedicini, “Dynamic-FROST: Schnorr Threshold Signatures with a Flexible Committee”, *Journal of Mathematical Cryptology*, vol. 19, no. 1, pp. 20240045, 2025. De Gruyter. doi: 10.1515/jmc-2024-0045.
- J13.** M. Benedetti, F. De Sclavis, M. Favorito, G. Galano, S. Giammusso, A. Muci, M. Nardelli, “An Analysis of Pervasive Payment Channel Networks for Central Bank Digital Currencies”, *Computer Communications*, vol. 240, pp. 108199, 2025. doi: 10.1016/j.comcom.2025.108199.

Capitoli di Libro (peer-reviewed)

- B1.** V. Cardellini, T. G. Grbac, M. Nardelli, N. Tanković, 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, Springer, vol. 10768, pp. 182–211, May 2018. doi: 10.1007/978-3-319-90415-3_8.
- B2.** V. Cardellini, T. G. Grbac, A. Kassler, A. Marotta, P. Kathiravelu, F. Lo Presti, 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, Springer, vol. 10768, pp. 212–240, May 2018. doi: 10.1007/978-3-319-90415-3_9.
- B3.** 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*. Advances in Information Security, W. Chang and J. Wu (eds.), Springer, vol. 83, pp. 355–385, Jan. 2021. doi: 10.1007/978-3-030-57328-7_14.

Articoli in Conferenze e Workshop Peer-reviewed

- C1.** V. Cardellini, V. Grassi, F. Lo Presti, M. Nardelli, “Distributed QoS-aware scheduling in Storm”, In *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. **Best Poster Award**
- C2.** V. Cardellini, V. Grassi, F. Lo Presti, M. Nardelli, “On QoS-aware scheduling of data stream applications over fog computing infrastructures”, *5th International Workshop on Management of Cloud and Smart City Systems 2015 (MOCS 2015)*, in conjunction with ISCC 2015. Published in *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.
- C3.** M. Nardelli, “A Framework for Data Stream Applications in a Distributed Cloud”, In *Proceedings of the 8th ZEUS Workshop 2016 (ZEUS 2016)*, pp. 56–63, Vienna, Austria, January 2016. CEUR-WS.org/Vol-1562, urn:nbn:de:0074-1562-4, online: <http://ceur-ws.org/Vol-1562/paper9.pdf>.
- C4.** M. Nardelli, “QoS-aware Deployment of Data Streaming Applications over Distributed Infrastructures”, In *Proceedings of the 39th IEEE International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO 2016)*, pp. 736–741, Opatija, Croatia, May 2016. doi: 10.1109/MIPRO.2016.7522238.
- C5.** V. Cardellini, V. Grassi, F. Lo Presti, M. Nardelli, “Optimal Operator Placement for Distributed Stream Processing Applications”, In *Proceedings of the 10th ACM International Conference on Distributed and Event-Based Systems (DEBS 2016)*, pp. 69–80, Irvine, CA, USA, June 2016. doi: 10.1145/2933267.2933312. **Honorable Mention Paper Award**
- C6.** G. Marciani, M. Piu, M. Porretta, M. Nardelli, V. Cardellini, “Grand Challenge: Real-time Analysis of Social Networks Leveraging the Flink Framework”, In *Proceedings of the 10th ACM International Conference on Distributed and Event-Based Systems (DEBS 2016)*, pp. 386–389, Irvine, CA, USA, June 2016. doi: 10.1145/2933267.2933517.
- C7.** M. Nardelli, “Doctoral Symposium: Placement of Distributed Stream Processing over Heterogeneous Infrastructures”, In *Proceedings of the 10th ACM International Conference on Distributed and Event-Based Systems (DEBS 2016)*, pp. 422–425, Irvine, CA, USA, June 2016. doi: 10.1145/2933267.2933432.
- C8.** V. Cardellini, M. Nardelli, D. Luzi, “Elastic Stateful Stream Processing in Storm”, In *Proceedings of the 2016 International Conference on High Performance Computing & Simulation (HPCS 2016)*, pp. 583–590, Innsbruck, Austria, July 2016.
doi: 10.1109/HPCSim.2016.7568388. (acceptance rate: 39%)
- C9.** V. Cardellini, V. Grassi, F. Lo Presti, M. Nardelli, “Joint Operator Replication and Placement Optimization for Distributed Streaming Applications”, In *Proceedings of InfQ 2016 - New Frontiers in Quantitative Methods in Informatics (in conjunction with ValueTools 2016)*, pp. 263–270, Taormina, Italy, October 2016.¹ doi: 10.4108/eai.25-10-2016.2266628.

¹Selected and published as extended journal version in ACM SIGMETRICS Performance Evaluation Review, 2017. Reference: [J1].

- C10.** M. Nardelli, “Elastic Allocation of Docker Containers in Cloud Environments”, In *Proceedings of the 9th ZEUS Workshop 2017 (ZEUS 2017)*, pp. 59–66, Lugano, Switzerland, February 2017. CEUR-WS.org/Vol-1826, urn:nbn:de:0074-1826-4, online: <http://ceur-ws.org/Vol-1826/paper10.pdf>.
- C11.** M. Nardelli, C. Hochreiner, S. Schulte, “Elastic Provisioning of Virtual Machines for Container Deployment”, *1st International Workshop on Autonomous Control for Performance and Reliability Trade-offs in Internet of Services (ACPROSS 2017)*, in conjunction with ACM/SPEC ICPE 2017. Published in *Proceedings of the 8th ACM/SPEC on International Conference on Performance Engineering Companion (ICPE '17 Companion)*, pp. 5–10, L'Aquila, Italy, April 2017. doi: 10.1145/3053600.3053602.
- C12.** O. Skarlat, M. Nardelli, S. Schulte, S. Dustdar, “Towards QoS-aware Fog Service Placement”, In *Proceedings of the 2017 IEEE 1st International Conference on Fog and Edge Computing (ICFEC 2017)*, pp. 89–96, Madrid, Spain, May 2017. doi: 10.1109/ICFEC.2017.12. (acceptance rate: 24%)
- C13.** G. Marciani, M. Porretta, M. Nardelli, G. F. Italiano, “A Data Streaming Approach to Link Mining in Criminal Networks”, In *Proceedings of the 5th International Conference on Future Internet of Things and Cloud Workshops (FiCloudW 2017)*, pp. 138–143, Prague, Czech Republic, August 2017. doi: 10.1109/FiCloudW.2017.88.
- C14.** V. Cardellini, F. Lo Presti, M. Nardelli, G. Russo Russo, “Towards Hierarchical Autonomous Control for Elastic Data Stream Processing in the Fog”, *International Workshop on Autonomic Solutions for Parallel and Distributed Data Stream Processing (Auto-DaSP 2017)*, in conjunction with Euro-Par 2017. Published in *Euro-Par 2017: Parallel Processing Workshops*, Lecture Notes in Computer Science Vol. 10659, pp. 106–117, 2018. doi: 10.1007/978-3-319-75178-8_9.
- C15.** 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*, in conjunction with ValueTools 2017. Communications in Computer and Information Science, Vol. 825, pp. 97–110, 2018. doi: 10.1007/978-3-319-91632-3_8.
- C16.** C. Hochreiner, M. Nardelli, B. Knasmueller, S. Schulte, S. Dustdar, “VTDL: A Notation for Data Stream Processing Applications”, in *Proceedings of the 2018 IEEE Symposium on Service-Oriented System Engineering (SOSE 2018)*, pp. 76–85, Bamberg, Germany, March 2018. doi: 10.1109/SOSE.2018.00019. (acceptance rate: 20%)
- C17.** M. Nardelli, V. Cardellini, E. Casalicchio, “Multi-level Elastic Deployment of Containerized Applications in Geo-distributed Environments”, in *Proceedings of the IEEE 6th International Conference on Future Internet of Things and Cloud (FiCloud-2018)*, pp. 1–8, Barcelona, Spain, 6-8 August 2018. doi: 10.1109/FiCloud.2018.00009. (acceptance rate: 30%)
- C18.** M. Nardelli, G. Russo Russo, V. Cardellini, F. Lo Presti, “A Multi-level Elasticity Framework for Distributed Data Stream Processing”, *International Workshop on Autonomic Solutions for Parallel and Distributed Data Stream Processing (Auto-DaSP 2018)*, in conjunction with Euro-Par 2018. Published in *Euro-Par 2018: Parallel Processing Workshops*, Lecture Notes in Computer Science Vol. 11339, pp. 53–64, 2018. doi: 10.1007/978-3-030-10549-5_5.

- C19.** T. Hiessl, V. Karagiannis, C. Hochreiner, S. Schulte, M. Nardelli, “Optimal Placement of Stream Processing Operators in the Fog”, in *Proceedings of the 2019 IEEE 3rd International Conference on Fog and Edge Computing (ICFEC 2019)*, pp. 1–10, Larnaca, Cyprus, May 14-17 2019. doi: 10.1109/CFEC.2019.8733147. (acceptance rate: 26%)
- C20.** F. Rossi, M. Nardelli, V. Cardellini, “Horizontal and vertical scaling of container-based applications using reinforcement learning”, in *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. (acceptance rate: 21%)
- C21.** 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. Published in Lecture Notes in Computer Science Vol. 12041, Springer, pp. 77–102, August 2020. doi: 10.1007/978-3-030-58628-7_6.
- C22.** M. Benedetti, F. De Sclavis, M. Favorito, G. Galano, S. Giammusso, A. Muci, M. Nardelli, “PoW-less Bitcoin with Confidential Byzantine PoA”, *Proceedings of the 2023 IEEE International Conference on Blockchain and Cryptocurrency (ICBC 2023)*, Dubai, United Arab Emirates, May 1-5, 2023. doi: 10.1109/ICBC56567.2023.10174972.
- C23.** M. Benedetti, F. De Sclavis, M. Favorito, G. Galano, S. Giammusso, A. Muci, M. Nardelli, “Certified Byzantine Consensus with Confidential Quorum for a Bitcoin-derived Permissioned DLT”, in *Proceedings of the 5th Distributed Ledger Technology Workshop (DLT 2023)*, Bologna, Italy, May 25-26, 2023. CEUR-WS.org/Vol-3460, urn:nbn:de:0074-3460-0, online: https://ceur-ws.org/Vol-3460/papers/DLT_2023_paper_1.pdf.
- C24.** M. Benedetti, M. Favorito, M. Nardelli, “Orchestration of Blockchain-based Digital Twins”, in *Proceedings of the 5th Distributed Ledger Technology Workshop (DLT 2023)*, Bologna, Italy, May 25-26, 2023. CEUR-WS.org/Vol-3460, urn:nbn:de:0074-3460-0, online: https://ceur-ws.org/Vol-3460/papers/DLT_2023_paper_4.pdf.
- C25.** M. Nardelli, G. Russo Russo, V. Cardellini, “Compute Continuum: What Lies Ahead?”, *International Workshop on Scalable Compute Continuum (WSCC 2023)*, in conjunction with Euro-Par 2023. Limassol, Cyprus, August 29, 2023. Published in *Euro-Par 2023: Parallel Processing Workshops*, Lecture Notes in Computer Science Vol. 14351, pp. 5–17, 2023. doi: 10.1007/978-3-031-50684-0_1.
- C26.** O. Giudice, A. Maggi, M. Nardelli, “Exploring naive approaches to tell apart LLMs productions from human-written text”, in *Proceedings of the 2023 7th International Conference on Natural Language Processing and Information Retrieval (NLP IR ’23)*, pp. 71–76, Seoul, South Korea, December 15-17, 2023. ACM. 2024. doi: 10.1145/3639233.3639354.
- C27.** M. Benedetti, F. De Sclavis, M. Favorito, G. Galano, S. Giammusso, A. Muci, M. Nardelli, “Self-Balancing Semi-Hierarchical Payment Channel Networks for Central Bank Digital Currencies”, *5th Workshop on Blockchain theory and Applications (BRAIN 2024)*, in conjunction with PerCom 2024. Published in *Proceedings of 2024 IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events (PerCom Workshops)* pp. 530–536, Biarritz, France. March 11-15, 2024. doi: 10.1109/PerComWorkshops59983.2024.10503409.

- C28.** M. Nardelli, G. Russo Russo, “Function Offloading and Data Migration for Stateful Serverless Edge Computing”, in *Proceedings of the 15th ACM/SPEC International Conference on Performance Engineering (ICPE ’24)*, pp. 247–257, South Kensington, London, UK, May 7-11, 2024. doi: 10.1145/3629526.3649293. (acceptance rate: 34.6%)
- C29.** G. Galano, S. Giammusso, M. Nardelli, “Modeling Central Bank Digital Currency over Payment Channels: A Parallel ROSS-based Approach”, in *Proceedings of the 38th ACM SIGSIM Conference on Principles of Advanced Discrete Simulation (SIGSIM PADS ’24)*. pp. 30–34, Atlanta, Georgia, USA, June 24-26, 2024. doi: 10.1145/3615979.3656052. (acceptance rate: 33.3%)
- C30.** M. Benedetti, F. De Sclavis, G. Galano, S. Giammusso, A. Muci, M. Nardelli, “Impact of Layer-1 Characteristics on Scalability of Layer-2 Semi-Hierarchical Payment Channel Networks”, *Proceedings of the 6th Distributed Ledger Technology Workshop (DLT 2024)*, Turin, Italy, May 14-15, 2024. CEUR-WS.org/Vol-3791, urn:nbn:de:0074-3791-8, online: <https://ceur-ws.org/Vol-3791/paper23.pdf>.
- C31.** G. Galano, S. Giammusso, M. Nardelli, “Towards a Full Scale Simulation of a Central Bank Digital Currency Via Payment Channel Networks”, in *28th International Symposium on Distributed Simulation and Real Time Applications (DS-RT 2024)*, pp. 56–63, Urbino, Italy, October 7-9, 2024. doi: 10.1109/DS-RT62209.2024.00018.
- C32.** F. De Sclavis, G. Galano, A. Glielmo, M. Nardelli, “Unveiling the Mechanisms of DAI: A Logic-Based Approach to Stablecoin Analysis”, *Proceedings of the 2025 IEEE International Conference on Blockchain and Cryptocurrency (ICBC 2025)*, pp. 1–5, Pisa, Italy, June 2-6, 2025. doi: 10.1109/ICBC64466.2025.11114603.
- C33.** Sara Giammusso, Matteo Nardelli, “A Vision for Evolving Secret Sharing in Regulation-aware Private Payments”, *Workshop on Transparency, Regulation, and Analytics in Crypto-Asset Ecosystems (TRACE)*. Published in *Proceedings of the 2025 7th Conference on Blockchain Research & Applications for Innovative Networks and Services (BRAINS)*, pp. 1–5, Zurich, Switzerland, November 18-21, 2025. doi: 10.1109/BRAINS67003.2025.11302924.

Editoriali

- EA1.** V. Cardellini, P. Dazzi, G. Mencagli, M. Nardelli, M. Torquati, “Scalable Compute Continuum”, *Future Generation Computer Systems*, Vol. 166, pp. 107697, May 2025. doi: 10.1016/j.future.2024.107697

Atti di Conferenze

- E1.** D. Zeinalipour, D. Blanco Heras, G. Pallis, H. Herodotou, D. Trihinas, D. Balouek, P. Diehl, T. Cojean, K. Förlinger, M. H. Kirkeby, M. Nardelli, P. di Sanzo, “Euro-Par 2023: Parallel Processing Workshops - Euro-Par 2023 International Workshops, Limassol, Cyprus, August 28 - September 1, 2023, Revised Selected Papers, Part I”, *Lecture Notes in Computer Science*, Vol. 14351, Springer, 2024. ISBN 978-3-031-50683-3. doi: 10.1007/978-3-031-50684-0
- E2.** D. Zeinalipour, D. Blanco Heras, G. Pallis, H. Herodotou, D. Trihinas, D. Balouek, P. Diehl, T. Cojean, K. Förlinger, M. H. Kirkeby, M. Nardelli, P. di Sanzo, “Euro-Par 2023: Parallel

Processing Workshops - Euro-Par 2023 International Workshops, Limassol, Cyprus, August 28 - September 1, 2023, Revised Selected Papers, Part II”, Lecture Notes in Computer Science, Vol. 14352, Springer, 2024. ISBN 978-3-031-48802-3. doi: 10.1007/978-3-031-48803-0

- E3.** S. Caíno-Lores, D. Zeinalipour, T. Dimitra Doudali, D. E. Singh, G. E. M. Garzón, L. Sousa, D. Andrade, T. Cucinotta, D. D’Ambrosio, P. Diehl, M. F. Dolz, A. Jukan, R. Montella, M. Nardelli, M. Garcia-Gasulla, S. Neuwirth, “Euro-Par 2024: Parallel Processing Workshops - Euro-Par 2024 International Workshops, Madrid, Spain, August 26-30, 2024, Proceedings, Part I”, Lecture Notes in Computer Science, Vol. 15385, Springer, 2025. ISBN 978-3-031-90200-0. doi: 10.1007/978-3-031-90200-0
- E4.** S. Caíno-Lores, D. Zeinalipour, T. Dimitra Doudali, D. E. Singh, G. E. M. Garzón, L. Sousa, D. Andrade, T. Cucinotta, D. D’Ambrosio, P. Diehl, M. F. Dolz, A. Jukan, R. Montella, M. Nardelli, M. Garcia-Gasulla, S. Neuwirth, “Euro-Par 2024: Parallel Processing Workshops - Euro-Par 2024 International Workshops, Madrid, Spain, August 26-30, 2024, Proceedings, Part II”, Lecture Notes in Computer Science Vol. 15386, Springer, 2025. ISBN 978-3-031-90203-1. doi: 10.1007/978-3-031-90203-1

Altre Pubblicazioni

- O1.** R. La Rocca, R. Mancini, M. Benedetti, M. Caruso, S. Cossu, G. Galano, S. Mancini, G. Marcelli, P. Martella, M. Nardelli, C. Oliviero, “Integrating DLTs with market infrastructures: analysis and proof-of-concept for secure DvP between TIPS and DLT platforms”. *Mercati, infrastrutture, sistemi di pagamento (Markets, Infrastructures, Payment Systems)*, No. 26, Bank of Italy, 2022. MISP-26.
- O2.** M. Benedetti, F. De Scavis, M. Favorito, G. Galano, S. Giammusso, A. Muci, M. Nardelli, “Byzantine Fault Tolerant consensus with confidential quorum certificate for a Central Bank DLT”. *Mercati, infrastrutture, sistemi di pagamento (Markets, Infrastructures, Payment Systems)*, No. 50, Bank of Italy, 2024. MISP-50.

Report Tecnici

- T1.** V. Cardellini, V. Grassi, F. Lo Presti, M. Nardelli, “Distributed QoS-aware scheduling in Storm”. *Technical Report RR-15.07, Dip. di Ingegneria Civile e Ingegneria Informatica, Università di Roma “Tor Vergata”, Italy, March 2015.* <http://hdl.handle.net/2108/169392>
- T2.** V. Cardellini, F. Lo Presti, M. Nardelli, G. Russo Russo, “Optimal operator deployment and replication for elastic distributed data stream processing”. *Technical Report RR-17.11, Dip. di Ingegneria Civile e Ingegneria Informatica, Università di Roma “Tor Vergata”, Italy, February 2017.* <http://hdl.handle.net/2108/181557>
- T3.** V. Cardellini, F. Lo Presti, M. Nardelli, G. Russo Russo, “Towards hierarchical autonomous control for elastic data stream processing in the Fog”. *Technical Report RR-17.12, Dip. di Ingegneria Civile e Ingegneria Informatica, Università di Roma “Tor Vergata”, Italy, June 2017.* <http://hdl.handle.net/2108/194789>
- T4.** M. Borkowski, W. Fdhila, M. Nardelli, S. Rinderle-Ma, S. Schulte, “Event-based Failure Prediction in Distributed Business Processes”, *CoRR abs/1712.08342*, ArXiv, 2019. doi: 10.48550/arXiv.1712.08342.

- T5.** M. Benedetti, F. De Sclavis, M. Favorito, G. Galano, S. Giammusso, A. Muci, M. Nardelli, “A PoW-less Bitcoin with Certified Byzantine Consensus”, *CoRR abs/2207.06870*, ArXiv, 2022. doi: 10.48550/arXiv.2207.06870.
- T6.** M. Benedetti, F. De Sclavis, M. Favorito, G. Galano, S. Giammusso, A. Muci, M. Nardelli, “Self-Balancing Semi-Hierarchical PCNs for CBDCs”, *CoRR abs/2401.11868*, ArXiv, 2024. doi: 10.48550/arXiv.2401.11868.
- T7.** A. Cimatti, F. De Sclavis, G. Galano, S. Giammusso, M. Iezzi, A. Muci, M. Nardelli, M. Pedicini, “Dynamic-FROST: Schnorr Threshold Signatures with a Flexible Committee”, *Cryptology ePrint Archive, Paper 2024/896*, 2024. <https://ia.cr/2024/896>.
- T8.** F. De Sclavis, G. Galano, A. Glielmo, M. Nardelli, “Unveiling the Mechanisms of DAI: A Logic-Based Approach to Stablecoin Analysis”, *CoRR abs/2412.15814*, ArXiv, 2024. doi: 10.48550/arXiv.2412.15814.
- T9.** M. Nardelli, F. De Sclavis, M. Iezzi, “A Hitchhiker’s Guide to Privacy-Preserving Digital Payment Systems: A Survey on Anonymity, Confidentiality, and Auditability”, *cs.CR 2505.21008*, ArXiv, 2025. doi: 10.48550/arXiv.2505.21008.

Artefatti

- A1.** M. Nardelli e G. Russo Russo, “Artifact for “Function Offloading and Data Migration for Stateful Serverless Edge Computing””. *Zenodo*, February 21, 2024. doi: 10.5281/zenodo.10689698.
- A2.** G. Galano, S. Giammusso, M. Nardelli, “Modeling Central Bank Digital Currency over Payment Channels: A Parallel ROSS-based Approach”. *Zenodo*, April 29, 2024. doi: 10.5281/zenodo.11082150.
- A3.** M. Benedetti, F. De Sclavis, M. Favorito, G. Galano, S. Giammusso, A. Muci, M. Nardelli, “Results of “An Analysis of Pervasive Payment Channel Networks for Central Bank Digital Currencies””. *Zenodo*, February 11, 2025. doi: 10.5281/zenodo.14848785.
- A4.** F. De Sclavis, G. Galano, A. Glielmo, M. Nardelli, “Artifact for “Unveiling the Mechanisms of DAI: A Logic-Based Approach to Stablecoin Analysis””. *Zenodo*, March 27, 2025. doi: 10.5281/zenodo.15094256.