

Marco Netto

Researcher, Master Inventor, Manager at IBM Research, Brazil

IEEE Senior member

Ph.D. in Computer Science, Unimelb, Australia, 2010

mr.marco.netto@ieee.org | <http://www.marconetto.me>

Background

Technical expertise on backend systems, with 20+ years of practice in the area. More than 8 years in a management role leading multidisciplinary teams in a very dynamic environment to create novel technologies mixing Cloud, Artificial Intelligence, and High Performance Computing. Inventor with 100+ patent applications (60+ of them granted) and 65+ scientific papers. Experience working with clients for validating and improving first of a kind technologies. Love to give talks to young students on IT career advising. Passion for making complex computing systems easier to be used.

Professional Experience

IBM Research - Sao Paulo, Brazil Since 2011

- Research Staff Member and Research Manager (since Oct 2013)
- IBM Master Inventor (since Oct 2014) and Recipient of IBM technical awards
- R&D on workload migration to the cloud and autoscaling for big data applications
- Led HPC cloud tech dev to simplify usage of cloud for HPC workloads
 - including: job memory predictor, queue wait time predictor, cloud bursting advisor
- Led technical staff and client engagements to create Digital Agriculture businesses
- Led team and co-developed tech for AI CPU-intensive workloads in Jupyter Lab

Dell Center @ PUCRS - Porto Alegre, Brazil 2010

- Researcher for software testing in virtualized environments
- Performance evaluation in virtualised environments

Hewlett Packard Center @ PUCRS - Porto Alegre, Brazil 2000 – 2004

- R&D for HPC resource management: <http://crono.sourceforge.net>
- System administrator for HPC environments

Education

Ph.D. in Computer Science, The University of Melbourne, Australia 2006 – 2010

M.S. in Computer Science, PUCRS, Brazil 2003 – 2004

B.S. in Computer Science, PUCRS, Brazil 1998 – 2002

Selected Publications

- Context-aware Execution Migration Tool for Data Science Jupyter Notebooks on Hybrid Clouds. IEEE eScience. 2021
- HPC Cloud for Scientific and Business Applications: Taxonomy, Vision, and Research Challenges. ACM Computing Surveys (CSUR), 2018
- A Manifesto for Future Generation Cloud Computing: Research Directions for the Next Decade. ACM Computing Surveys (CSUR), 2018

Patents

Issued Patents

105. US11093280. Automatic Reconfiguration of High Performance Computing Job Schedulers based on User Behavior, User Feedback, and Job Performance Monitoring. 2021.
104. US11087569. Vehicle Accident Data Management System. 2021.
103. US11074057. System and Method for Determining When Cloud Virtual Machines Need to Be Updated. 2021.
102. US11055195. Orchestrating An Interruption During Installation of Sensor-Based Devices. 2021.
101. US11030011. User Interface and System Supporting User Decision Making and Readjustments in Computer-Executable Job Allocations in the Cloud. 2021.
100. US10999301. Methods, Systems, and Program Product for Analyzing Cyber-Attacks based on Identified Business Impacts on Businesses. 2021.
99. US10979298. Collaboration Network and Server. 2021.
98. US10972532. Dynamic Shared Server Resource Allocation. 2021.
97. US10958828. Advising Image Acquisition based on Existing Training Sets. 2021.
96. US10958708. Crowdsourcing Big Data Transfer. 2021.
95. US10949545. Data Privacy Awareness in Workload Provisioning. 2021.
94. US10839098. System to Prevent Export of Sensitive Data. 2020.
93. US10783594. Agriculture Management based on Farmer Expertise and Interests. 2020.
92. US10680912. Infrastructure Resource Provisioning Using Trace-Based Workload Temporal Analysis for High Performance Computing. 2020.
91. US10671681. Triggering Personalized Search Queries based on Physiological and Behavioral Patterns. 2020.
90. US10638206. Video Annotation based on Social Media Trends. 2020.
89. US10635825. Data Privacy Awareness in Workload Provisioning. 2020.
88. US10606640. Rescheduling High Performance Computing Jobs based on Personalized Sanity Checks and Job Problem Resolution Classification. 2020.
87. US10579751. System and Method for Conducting Computing Experiments. 2020.
86. US10579689. Visualization and Augmentation of Human Knowledge Construction During Material Consumption. 2020.
85. US10552223. User Interface and System Supporting User Decision Making and Readjustments in Computer-Executable Job Allocations in the Cloud. 2020.
84. US10372435. System, Method and Program Product for Updating Virtual Machine Images. 2019.
83. US10360123. Auto-Scaling Thresholds in Elastic Computing Environments. 2019.
82. US10331482. Automatic Reconfiguration of High Performance Computing Job Schedulers based on User Behavior, User Feedback, and Job Performance Monitoring. 2019.
81. US10331481. Automatic Reconfiguration of High Performance Computing Job Schedulers based on User Behavior, User Feedback, and Job Performance Monitoring. 2019.

80. US10284636. Dynamic Shared Server Resource Allocation. 2019.
79. US10267950. System, Method and Program Product for Providing Populace Centric Weather Forecasts. 2019.
78. US10255259. Providing Data Quality Feedback While End Users Enter Data in Electronic Forms. 2019.
77. US10212270. Inferring Social Protocols Guiding the Use of Portable Devices. 2019.
76. US10204091. Providing Data Quality Feedback While End Users Enter Data in Electronic Forms. 2019.
75. US10067798. User Interface and System Supporting User Decision Making and Readjustments in Computer-Executable Job Allocations in the Cloud. 2018.
74. US9983864. System and Method for Determining When Cloud Virtual Machines Need to Be Updated. 2018.
73. US9898479. Data Distribution System, Method and Program Product. 2018.
72. US9866619. Transmission of Hierarchical Data Files based on Content Selection. 2018.
71. US9749459. Inferring Social Protocols Guiding the Use of Portable Devices. 2017.
70. US9697562. Resource Provisioning for Electronic Books. 2017.
69. US9633334. Facilitating User Incident Reports. 2017.
68. US9600262. System, Method and Program Product for Updating Virtual Machine Images. 2017.
67. US9590875. Content Delivery Infrastructure with Non-Intentional Feedback Parameter Provisioning. 2017.
66. US9535751. Resource Selection Advisor Mechanism. 2017.
65. US9513935. Auto-Scaling Thresholds in Elastic Computing Environments. 2016.
64. US9456308. Method and System for Creating and Refining Rules for Personalized Content Delivery based on Users Physical Activities. 2016.
63. US9418354. Facilitating User Incident Reports. 2016.
62. US9298443. System and Method for Determining When Cloud Virtual Machines Need to Be Updated. 2016.
61. US9294363. Adjusting Quality of Service in a Cloud Environment based on Application Usage. 2016.
60. US9294362. Adjusting Quality of Service in a Cloud Environment based on Application Usage. 2016.
59. US9164802. System, Method and Program Product for Allocating Resources and Services. 2015.
58. US9092498. Data Distribution System, Method and Program Product. 2015.
57. US9038085. System, Method and Program Product for Cost-Aware Selection of Stored Virtual Machine Images for Subsequent Use. 2015.
56. US8983816. Efficient Evaluation of Network Robustness with a Graph. 2015.
55. US8930957. System, Method and Program Product for Cost-Aware Selection of Stored Virtual Machine Images for Subsequent Use. 2015.

54. US8930541. System, Method and Program Product for Cost-Aware Selection of Templates for Provisioning Shared Resources. 2015.
53. US8909189. System, Method and Program Product for Maintaining Deployed Response Team Members Synchronized. 2014.
52. US8854219. System, Method and Program Product for Providing Populace Movement Sensitive Weather Forecasts. 2014.
51. US8832239. System, Method and Program Product for Optimizing Virtual Machine Placement and Configuration. 2014.
50. US8688420. Efficient Evaluation of Network Robustness with a Graph. 2014.
49. US8676985. System, Method and Program Product for Local Client Device Context-Aware Shared Resource and Service Management. 2014.
48. US8635294. System, Method and Program Product for Proactively Provisioning Emergency Computer Resources Using Geospatial Relationships. 2014.
47. US8046759. Resource Allocation Method and System. 2011.

Pending Patents

46. US2021287668. Assisting Meeting Participants Via Conversation Loop Detection and Resolution Using Conversation Visual Representations and Time-Related Topic Usage.
45. US2021247989. Guiding the Installation Process of Sensor-Based Devices.
44. US2021243217. Preventing Vulnerable Configurations in Sensor-Based Devices.
43. US2021216579. Implicit and Explicit Cognitive Analyses for Data Content Comprehension.
42. US2021216434. Creation of Minimal Working Examples and Environments for Troubleshooting Code Issues.
41. US2021216338. Generation of Benchmarks of Applications based on Performance Traces.
40. US2021173942. Data Privacy Awareness in Workload Provisioning.
39. US2021149955. Commercial Video Summaries Using Crowd Annotation.
38. US2021149658. Data Analytics to Determine Software Maintenance Advisory Using Input Data.
37. US2021097287. Automatic Adaptation of Digital Content.
36. US2021064496. Configuration of Key-Mapping.
35. US2021026973. Automatic and Customized Data Deletion Actions.
34. US2021001771. Notifying Passengers of Imminent Vehicle Braking.
33. US2020326669. Auto-Adjustable Machine Functionality Using Analytics of Sensor Data.
32. US2020302564. Customized Career Counseling and Management.
31. US2020245043. Video Annotation based on Social Media Trends.
30. US2020175883. Screening Material Waste.
29. US2020159800. Visualization and Augmentation of Human Knowledge Construction During Material Consumption.
28. US2020151375. System and Method for Conducting Computing Experiments.

27. US2020134476. Generating Code Performance Hints Using Source Code Coverage Analytics, Inspection, and Unstructured Programming Documents.
26. US2020118080. Time-Sensitive Analysis for Identifying Resources to Resolve a Requirement.
25. US2020097512. Provisioning a Customized Software Stack for Network-Based Question and Answer Services.
24. US2020074882. Reward-Based Ecosystem for Tracking Nutritional Consumption.
23. US2020042565. Triggering Personalized Search Queries based on Physiological and Behavioral Patterns.
22. US2018349828. People Interruption Management System and Method based on Task Detection and Physiological Measures.
21. US2018115946. Trusted Method for Consuming and Sharing Wi-Fi Internet Access.
20. US2018060987. Identification of Abnormal Behavior in Human Activity based on Internet of Things Collected Data.
19. US2017180290. Selective Content Dissemination based on Social Media Content Analysis.
18. US2017177583. System and Method for Identifying Gifts Having Shared Interests Via Social Media Networking, User Profiles and Browsing Data.
17. US2016132213. Efficient Facilitation of Human Review and Computational Analysis.
16. US2014365342. Resource Provisioning for Electronic Books.
15. US2014358610. Discovering Task Dependencies for Incident Management.
14. US2014358609. Discovering Task Dependencies for Incident Management.
13. US2014357247. Method and System for Creating and Refining Rules for Personalized Content Delivery based on Users Physical Activities.
12. US2014337377. Managing Support Team Inquiries.
11. US2014337076. Managing Support Team Inquiries.
10. US2014214583. Data Distribution System, Method and Program Product.
9. US2014067487. Systems, Methods, and Computer Program Products for Prioritizing Information.
8. US2014067486. Systems, Methods, and Computer Program Products for Prioritizing Information.
7. US2014045446. System, Method and Program Product for Maintaining Deployed Response Team Members Synchronized.
6. US2014006620. System, Method and Program Product for Local Client Device Context-Aware Shared Resource and Service Management.
5. US2013339204. Risk-Based Dynamic Geo-Location based Replication of Services in Cloud Computing.
4. US2013339203. Risk-Based Dynamic Geo-Location based Replication of Services in Cloud Computing.
3. US2013132971. System, Method and Program Product for Streamlined Virtual Machine Desktop Display.
2. US2013116920. System, Method and Program Product for Flood Aware Travel Routing.
1. US2006218430. System and Method for Allocating Transactions to a Plurality of Computing Systems.

Publications

- 2021
- eScience [Context-aware Execution Migration Tool for Data Science Jupyter Notebooks on Hybrid Clouds](#). R. LF Cunha, L. V Real, R. Souza, B. Silva, M. AS Netto. IEEE Int. Conf. on eScience (eScience). 2021
- 2020
- SPE [New generation cloud computing](#). B. Varghese, M. A. S. Netto, I. Martin Llorente, R. Buyya. Software Practice and Experience (SPE), 50(6):803–804. 2020
- 2019
- SC-WORKS [Provenance Data in the Machine Learning Lifecycle in Computational Science and Engineering](#). R. Souza, P. Valduriez, M. Mattoso, R. Cerqueira, M. Aurelio Stelmar Netto, L. Azevedo, V. Lourenco, E. F. de Souza Soares, R. Thiago, R. Brandao, D. Civitarese, E. Vital Brazil, M. Ferreira Moreno. IEEE/ACM Workflows in Support of Large-Scale Science in conjunction with Int. Conf. for High Performance Computing, Networking, Storage and Analysis - SuperComputing (SC-WORKS). 2019
- eScience [Efficient Runtime Capture of Multiworkflow Data Using Provenance](#). R. Souza, M. Mattoso, L. Azevedo, R. Thiago, E. F. de Souza Soares, M. Nery dos Santos, M. A. S. Netto, E. Vital Brazil, R. Cerqueira, P. Valduriez. 15th Int. Conf. on eScience (eScience). 2019
- 2018
- CSUR [HPC Cloud for Scientific and Business Applications: Taxonomy, Vision, and Research Challenges](#). M. A.S. Netto, R. N. Calheiros, E. R. Rodrigues, R. L.F. Cunha, R. Buyya. ACM Computing Surveys (CSUR), 51(1):8:1–8:29. 2018
- CSUR [A Manifesto for Future Generation Cloud Computing: Research Directions for the Next Decade](#). B., R., S., S. Narayana, C., G., C., R., S., Y., V., B., G., E., J., B., V., L. Miguel, N., M. A. S., T., A. Nadjaran, R., M. Alejandra, L., I. M., V., S. De Capitani Di, S., P., M., D., V., C., B., R., A., M. D. De, R., O., Z., W., J., H., G., W., Z., A. Y., S., H.. ACM Computing Surveys (CSUR), 51(5):105:1–105:38. 2018
- FGCS [JobPruner: A Machine Learning Assistant for Exploring Parameter Spaces in HPC Applications](#). B. Silva, M. A.S. Netto, R. L.F. Cunha. Future Generation Computer Systems (FGCS), 83():144–157. 2018
- eScience [A Scalable Machine Learning System for Pre-Season Agriculture Yield Forecast](#). I. Oliveira, R. L. F. Cunha, B. Silva, M. A. S. Netto. Proc. IEEE 14th IEEE Int. Conf. on e-Science (eScience). 2018
- eScience [DeepDownscale: a Deep Learning Strategy for High-Resolution Weather Forecast](#). E. Rocha Rodrigues, I. Oliveira, R. L. F. Cunha, M. A. S. Netto. Proc. IEEE 14th IEEE Int. Conf. on e-Science (eScience). 2018

- BreSci [A Search Space Exploration Framework for e-Science Applications](#). E. B. Gauch, B. Castanheira, B. Silva, R. L. F. Cunha, M. A. S. Netto. Proc. XII Brazilian e-Science Workshop (BreSci). 2018
- 2017
- FGCS [Job Placement Advisor Based on Turnaround Predictions for HPC Hybrid Clouds](#). R. L.F. Cunha, E. R. Rodrigues, L. P. Tizzei, M. A.S. Netto. Future Generation Computer Systems (FGCS), 67():35–46. 2017
- 2016
- SC-WORKS [SLA-aware Interactive Workflow Assistant for HPC Parameter Sweeping Experiments](#). B. Silva, M. A.S. Netto, R. L.F. Cunha. Proc. of the Int. Workshop on Workflows in Support of Large-Scale Science in conjunction with Int. Conf. for High Performance Computing, Networking, Storage and Analysis - SuperComputing (SC-WORKS). 2016
- SC-HUST [Helping HPC Users Specify Job Memory Requirements via Machine Learning](#). E. R. Rodrigues, R. L.F. Cunha, M. A.S. Netto, M. Spriggs. Proc. of the Int. Workshop on HPC User Support Tools in conjunction with Int. Conf. for High Performance Computing, Networking, Storage and Analysis - SuperComputing (SC-HUST). 2016
- FGCS [Impact of user patience on auto-scaling resource capacity for cloud services](#). M. D. de Assuncao, C. H. Cardonha, M. A.S. Netto, R. L.F. Cunha. Future Generation Computer Systems (FGCS), 55():41–55. 2016
- FGCS [Optimising Resource Costs of Cloud Computing for Education](#). F. Koch, M. D. Assuncao, C. Cardonha, M. A. S. Netto. Future Generation Computer Systems (FGCS), 55():473–479. 2016
- CoRR [Exploiting Workload Cycles for Orchestration of Virtual Machine Live Migrations in Clouds](#). A. Baruchi, E. T. Midorikawa, L. M. Sato, M. A. S. Netto. The Computing Research Repository (CoRR)(). 2016
- 2015
- Computer [Deciding When and How to Move HPC Jobs to the Cloud](#). M. A. S. Netto, R. L. F. Cunha, N. Sultanum. Computer, 48(11):112–115. 2015
- IBM-JRD [An architecture and algorithm for context-aware resource allocation for digital teaching platforms](#). F.L. Koch, M. D. de Assuncao, C. H. Cardonha, M. A. S. Netto, T. T. Primo. IBM Journal of Research and Development (IBM-JRD), 59(6):1:1-1:9. 2015
- JPDC [Big Data computing and clouds: Trends and future directions](#). M. D. de Assuncao, R. N. Calheiros, S. Bianchi, M. A. S. Netto, R. Buyya. Journal of Parallel and Distributed Computing (JPDC), 79–80():3–15. 2015
- MASCOTS [Using Application Data for SLA-aware Auto-scaling in Cloud Environments](#). A. A. D. P. Souza, M. A. S. Netto. Proc. of the IEEE 23rd Int. Symp. on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS'15). 2015

- GECON [Optimizing Multi-tenant Cloud Resource Pools via Allocation of Reusable Time Slots](#). L. P. Tizzei, M. A. S. Netto, S. Tao. Proc. of the 12th Int. Conf. on Economics of Grids, Clouds, Systems, and Services (GECON'15). 2015
- ICSOC [An SLA-based Advisor for Placement of HPC Jobs on Hybrid Clouds](#). K. Mantripragada, L. P. Tizzei, A. P. D. Binotto, M. A. S. Netto. Proc. of the Int. Conf. on Service Oriented Computing (ICSOC'15). 2015
- [Application Level Monitoring and SLA Violation Detection for Multi-tenant Cloud Services](#). V. C. Emeakaroha, M. A. S. Netto, I. Brandic, C. A. F. De Rose. Chapter in Emerging Research in Cloud Distributed Computing Systems. IGI Global. 2015
- [A Feasibility Study of Using HPC Cloud Environment for Seismic Exploration](#). K. M. Mantripragada, A. P. D. Binotto, L. P. Tizzei, M. A. S. Netto. Proc. of the 77th EAGE Conf. and Exhibition. 2015
- [Supporting the Scheduling over Local HPC and Cloud Platforms: An FWI Case Study](#). A.P.D. Binotto, L.P. Tizzei, K. Mantripragada, M.A.S. Netto. Proc. of Second EAGE Workshop on High Performance Computing for Upstream. 2015
- 2014
- MASCOTS [Evaluating Auto-scaling Strategies for Cloud Computing Environments](#). M. A. S. Netto, C. Cardonha, R. L. F. Cunha, M. D. de Assuncao. Proc. of the IEEE 22nd Int. Symp. on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS'14). 2014
- CLOUD [Exploiting User Patience for Scaling Resource Capacity in Cloud Services](#). R. L. F. Cunha, M. D. de Assuncao, C. Cardonha, M. A. S. Netto. Proc. of the 7th IEEE Int. Conf. on Cloud Computing (CLOUD'14). 2014
- CNSM [Improving Virtual Machine Live Migration via Application-level Workload Analysis](#). A. Baruchi, E. Midorikawa, M. A. S. Netto. Proc. of the 10th Int. Conf. on Network and Service Management (CNSM'14). 2014
- [Challenges and Opportunities for HPC Cloud in Natural Resources](#). A. C. Nogueira, A. Binotto, K. Mantripragada, L. P. Tizzei, N. Sultanum, M. A. S. Netto. Proc. of the SPE Large Scale Computing and Big Data Challenges in Reservoir Simulation Conf. & Exhibition. 2014
- 2013
- SPE [EMUSIM: an integrated emulation and simulation environment for modeling, evaluation, and validation of performance of Cloud computing applications](#). R. N. Calheiros, M. A. S. Netto, C. A. F. De Rose, R. Buyya. Software: Practice and Experience (SPE), 43(5):595–612. 2013
- ICSOC [Patience-aware Scheduling for Cloud Services: Freeing Users from the Chains of Boredom](#). C. Cardonha, M. D. de Assuncao, M. A. S. Netto, R. L. F. Cunha, C. Queiroz. Proc. of the 11th Int. Conf. on Service Oriented Computing (ICSOC'13). 2013

- CNSM [Leveraging Attention Scarcity to Improve the Overall User Experience of Cloud Services](#). M. A. S. Netto, M. D. de Assuncao, S. Bianchi. Proc. of the IFIP 9th Int. Conf. on Network and Service Management (CNSM'03). 2013
- IM [When Cloud Virtual Machine Images Need to Be Updated](#). M. A. S. Netto, M. D. de Assuncao, L. Renganarayana, C. Young. Proc. of the IFIP/IEEE Int. Symp. on Integrated Network Management (IM'13). 2013
- IM [Software Bundling Selection for Cloud Virtual Machine Images](#). M. A. S. Netto, M. D. de Assuncao, L. Renganarayana, C. Young. Proc. of the IFIP/IEEE Int. Symp. on Integrated Network Management (IM'13). 2013
- AINA [Scheduling Workflows in Multi-Cluster Environments](#). S. L. Stanzini, L. M. Sato, M. A. S. Netto. Proc. of the IEEE 27th Int. Conf. on Advanced Information Networking and Applications (AINA'13) Workshops. 2013
- 2012**
- CCPE [Coordinated Rescheduling of Bag-of-Tasks for Executions on Multiple Resource Providers](#). M. A. S. Netto, R. Buyya. Concurrency and Computation: Practice and Experience (CCPE), 24(12):1362–1376. 2012
- FGCS [Towards autonomic detection of SLA violations in Cloud infrastructures](#). V. C. Emeakaroha, M. A. S. Netto, R. N. Calheiros, I. Brandic, R. Buyya, C. A. F. De Rose. Future Generation Computer Systems (FGCS), 28(7):1017–1029. 2012
- JPDC [Performance evaluation of OpenMP-based algorithms for handling Kronecker descriptors](#). A. M. de Lima, M. A. S. Netto, T. Webber, R. M. Czekster, C. A. F. De Rose, P. Fernandes. Journal of Parallel and Distributed Computing (JPDC), 72(5):678–692. 2012
- NOMS [CloudAffinity: A Framework For Matching Servers to Cloudmates](#). M. D. Assuncao, M. A. S. Netto, B. Peterson, L. Renganarayana, J. Rofrano, C. Ward, C. Young. Proc. of the 13th IEEE/IFIP Network Operations and Management Symp. (NOMS'12). 2012
- GECON [A Cost Analysis of Cloud Computing for Education](#). F. Luiz Koch, M. D. de Assuncao, M. A. S. Netto. Proc. of the 9th Int. Conf. on Economics of Grids, Clouds, Systems, and Services (GECON'12). 2012
- CloudAM [Context-aware Job Scheduling for Cloud Computing Environments](#). M. D. de Assuncao, M. A. S. Netto, F. Koch, S. Bianchi. Proc. of the Int. Workshop on Clouds and eScience Applications Management (CloudAM'12), held in conjunction with the 5th IEEE/ACM Int. Conf. on Utility and Cloud Computing (UCC 2012). 2012
- WSC [Scheduling with Preemption for Incident Management: When Interrupting Tasks is not Such a Bad Idea](#). M. D. Assuncao, V. F. Cavalcante, M. A. de C. Gatti, M. A. S. Netto, C. S. Pinhanez, C. R. B. de Souza. Proc. of the Winter Simulation Conf. (WSC'12). 2012
- COMPSAC [CASViD: Application Level Monitoring for SLA Violation Detection in Clouds](#). V. C. Emeakaroha, T. C. Ferreto, M. A. S. Netto, I. Brandic, C. A.F De Rose. Proc. of the 36th Annual IEEE Computer and Application Int. Conf. (COMPSAC'12). 2012

- [Achieving Flexible SLA and Resource Management in Clouds](#). V. C. Emeakaroha, M. A. S. Netto, R. N. Calheiros, C. A. F. De Rose. Chapter in *Achieving Federated and Self-Manageable Cloud Infrastructures: Theory and Practice*. IGI Global. 2012
- 2011
- JPDC [Use of run time predictions for automatic co-allocation of multi-cluster resources for iterative parallel applications](#). M. A. S. Netto, C. Vecchiola, M. Kirley, C. A. Varela, R. Buyya. *Journal of Parallel and Distributed Computing (JPDC)*, 71(10):1388–1399. 2011
- FGCS [Server consolidation with migration control for virtualized data centers](#). T. C. Ferreto, M. A. S. Netto, R. N. Calheiros, C. A. F. De Rose. *Future Generation Computer Systems (FGCS)*, 27(8):1027–1034. 2011
- SMTPS [Evaluating Load Generation in Virtualized Environments for Software Performance Testing](#). M. A. S. Netto, S. Menon, H. V. Vieira, L. T. Costa, F. M. de Oliveira, R. Saad, A. Zorzo. Proc. of the 7th Int. Workshop on System Management Techniques, Processes, and Services (SMTPS'11), in conj with the 25th IEEE Int. Parallel and Distributed Processing Symp. (IPDPS'11). 2011
- ICSOC [CANPRO: A Conflict-Aware Protocol for Negotiation of Cloud Resources and Services](#). M. A. S. Netto. Proc. of the 9th Int. Conf. on Service Oriented Computing (ICSOC'11). 2011
- 2010
- CloudComp [DeSVi: An Architecture for Detecting SLA Violations in Cloud Computing Infrastructures](#). V. C. Emeakaroha, R. N. Calheiros, M. A. S. Netto, I. Brandic, C. A. F. De Rose. Proc. of the 2nd Int. ICST Conf. on Cloud Computing (CloudComp'10). 2010
- SBAC-PADW [OpenMP-based Parallel Algorithms for Solving Kronecker Descriptors](#). A. M. de Lima, T. Webber, M. A. S. Netto, R. M. Czekster, C. A. F. De Rose, P. Fernandes. Proc. of the 22nd Int. Symp. on Computer Architecture and High Performance Computing Workshops (SBAC-PADW'10). 2010
- 2009
- HCW [Offer-based Scheduling of Deadline-Constrained Bag-of-Tasks Applications for Utility Computing Systems](#). M. A. S. Netto, R. Buyya. Proc. of the 18th Int. Heterogeneity in Computing Workshop (HCW'09), in conjunction with the 23rd IEEE Int. Parallel and Distributed Processing Symp. (IEEE IPDPS'09). 2009
- [Resource Co-allocation in Grid Computing Environments](#). M. A. S. Netto, R. Buyya. Chapter in *Handbook of Research on P2P and Grid Systems for Service-Oriented Computing: Models, Methodologies and Applications*. 2009
- 2008

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- GRID Rescheduling Co-Allocation Requests based on Flexible Advance Reservations and Processor Remapping. M. A. S. Netto, R. Buyya. Proc. of the 9th IEEE/ACM Int. Conf. on Grid Computing (GRID'08). 2008
- 2007
- CCGrid Impact of Adaptive Resource Allocation Requests in Utility Cluster Computing Environments. M. A. S. Netto, R. Buyya. Proc. of the Seventh IEEE Int. Symp. on Cluster Computing and the Grid (CCGrid'07). 2007
- ICSOC SLA-based advance reservations with flexible and adaptive time QoS parameters. M. A. S. Netto, K. Bubendorfer, R. Buyya. Proc. of the Int. Conf. on Service Oriented Computing (ICSOC'07). 2007
- 2006
- MGC Message Passing over Windows-based Desktop Grids. C. Queiroz, M. A. S. Netto, R. Buyya. Proc. of the ACM/IFIP/USENIX Workshop on Middleware for the Grid (MGC'06). 2006
- HiPC Message Passing over .NET-based Desktop Grids. C. Queiroz, M. A. S. Netto, R. Buyya. Proc. of the Workshop on Cutting Edge Computing, in conjunction with the 13th IEEE Int. Conf. on High Performance Computing (HiPC'06). 2006
- 2005
- CCGrid Scheduling Complex Computer Simulations on Heterogeneous Non-dedicated Machines: A Case Study in Structural Bioinformatics. M. A. S. Netto, A. Breda, O. N. de Souza. Proc. of the 5th IEEE Int. Symp. on Cluster Computing and the Grid (CCGrid'05). 2005
- eScience Transparent Resource Allocation to Exploit Idle Cluster Nodes in Computational Grids. M. A. S. Netto, R. N. Calheiros, R. K. S. Silva, C. A. F. De Rose, C. Northfleet, W. Cirne. Proc. of the First IEEE Int. Conf. on e-Science and Grid Computing (eScience'05). 2005
- JSSPP Scheduling moldable BSP tasks. P. Dutot, M. A. S. Netto, A. Goldman, F. Kon. Proc. of the 11th Workshop on Job Scheduling Strategies for Parallel Processing (JSSPP'05). 2005
- 2003
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- ERAD CRONO: a manager for Linux cluster machines. M. A. S. Netto, C. A. F. De Rose. Proc. of the III Escola Regional de Alto Desempenho (ERAD'03). 2003
- WSL GNU/Linux in IPF machines: Promise or Reality?. R. Cassali, M. A. S. Netto, C. Oliva, A. Caringi, C. A. F. De Rose. Proc. of the IV Workshop de Software Livre (WSL'03). 2003

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- LCI** *CRONO: A Configurable Management System for Linux Clusters.* M. A. S. Netto, C. A. F. De Rose. Proc. of the Third LCI Int. Conf. on Linux Clusters: The HPC Revolution (LCI'02). 2002
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- WSL** *CPAD-PUCRS/HP: Linux as a Platform for Research in High Performance Computing.* T. Ferreto, F. F. Blanco, M. A. S. Netto, C. A. F. De Rose. Proc. of the the II Workshop sobre Software Livre (WSL'01). 2001

Awards, Grants, and Scholarships

- IBM Master Inventor	2020
- IBM Research Accomplishment Award	2020
- IBM Master Inventor	2017
- IBM Research Accomplishment Award	2017
- IBM Academy of Technology Membership	2017
- IEEE Senior Membership	2016
- Outstanding Reviewer: Journal of Parallel and Distributed Computing	2015
- IBM Master Inventor	2014
- FINEP HPC-Cloud (US\$ 2.4 million) Gov. Grant	2014
- Reviewer Meritorious Award from IEEE Computer Society	2013
- IBM Research Division Award	2013
- IBM Research Accomplishment Award	2012
- 3 Finalists for the Best Practitioner Paper Award (Frontiers)	2012
- IEEE CCGrid Student Travel Scholarship	2007
- ACM Middleware Student Grant	2006
- Melbourne Intl. Research Scholarship (MIRS)	2006 – 2009
- Endeavour Intl. Postgrad. Research Scholarship (IPRS)	2006 – 2009
- Master course — Brazilian Government Agency (CAPES)	2003 – 2004
- Scholarship on High Performance Computing — Hewlett Packard	2000 – 2004

Professional Service

Membership: IEEE Senior (member since 2006)

Journal Reviewer (current and past):

- IEEE Transactions on Parallel and Distributed Systems
- Journal of Parallel and Distributed Computing
- ACM Computing Surveys
- Future Generation Computer Systems
- Concurrency and Computation: Practice and Experience
- Software: Practice and Experience
- IEEE Transactions on Service Computing
- IEEE Transactions on Cloud Computing
- IEEE Transactions on Computers
- Journal of Grid Computing

Conference Program Committee (current and past):

GECON, UCC, ACM Middleware, SBRC, WSCAD,
IEEE SBAC-PAD, CloudAM, FiCloud, Xgreen,
IEEE CCEM, ERAD-SP, IDCS, WCGA