Renan Souza

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Bio

Renan Francisco Santos Souza holds a Ph.D. (2019) and an M.Sc. (2015) in Computer Science from COPPE/Federal University of Rio de Janeiro (UFRJ), and a B.Sc. in Computer Science from UFRJ (2009-2013). Since 2015, he works at IBM Research Brazil, where he is a Research Scientist in the Industrial Cloud Technologies group. He has been working both as a software engineer and a researcher in several projects since 2010 and has been actively publishing scientific papers in refereed international conferences and journals since 2014. During his B.Sc., he spent a school year at Missouri State University and did a summer internship at Stanford University in the SLAC National Laboratory. During his Ph.D., he was a visiting researcher at Inria/Univ. Montpellier in France in 2019. In 2017, he won the best M.Sc. thesis award from SBBD, the main conference on data management in Latin America. He researches large-scale data science and engineering techniques for the support of Artificial Intelligence systems.

Research Interests

Large-scale Data Science and Engineering • Parallel Workflows • Data Provenance • Big Data Analytics • High Performance Computing in Clusters and Clouds • Machine Learning •

Education

- Ph.D. in Computer Science, Federal Univ. of Rio de Janeiro, Brazil — Sep 2015 – Dec 2019
  Supervised by Marta Mattoso and Patrick Valduriez
  Title: Supporting User Steering in Large-scale Workflows with Provenance Data
- Visiting Ph.D. Student, Inria/Univ. Montpellier, France — Jan 2019 – Mar 2019
  Supervised by Patrick Valduriez
- M.Sc. in Computer Science, Federal Univ. of Rio de Janeiro, Brazil — Jan 2013 – Jul 2015
  Supervised by Marta Mattoso
  Title: Controlling the Parallel Execution of Workflows Relying on a Distributed Database
- Computer Science exchange student, Missouri State University, U.S. — Jun 2011 – Jun 2012
- B.Sc. in Computer Science, Federal Univ. of Rio de Janeiro, Brazil — Jan 2009 – Dec 2012
  Supervised by Maria Luiza Machado Campos
  Title: Linked Open Data Publication Strategies: An Application in Network Performance Data (in pt)
- Technical Degree in Information Systems, Lemos de Castro — Jan 2005 – Dec 2007

Experience

- IBM Research, Research Scientist — Aug 2019 – present
- IBM Research, Research Engineer — Sep 2015 – Aug 2019
- IBM Research, Software Engineer Intern — Apr 2015 – Sep 2015
- Stanford Univeristy, SLAC, Research Collaborator — Aug 2013 – Dec 2014
- Stanford Univeristy, SLAC, Research Intern — May 2013 – Aug 2013
- CAPGov - Government Technologies, Leading Software Engineer — Dec 2013 – Sep 2014

- CAPGov - Government Technologies, Software Engineer — Sep 2013 – Jan 2014
- CAPGov - Government Technologies, Software Engineer Intern — Jan 2011 – Jun 2012
- Federal Univ. of Rio de Janeiro, Software Engineer Intern — Jan 2010 – Jul 2011

Selected Publications

For complete list, visit: RenanSouza.org/publications

[1] R. Souza, L. Azevedo, V. Lourenço, E. Soares, R. Thiago, R. Brandão, D. Civitarese, E. Vital Brazil, M. Moreno, P. Valduriez, M. Mattoso, R. Cerqueira, M. A. S. Netto, "Provenance data in the machine learning lifecycle in computational science and engineering," in *Workflows in Support of Large-Scale Science (WORKS) co-located with the ACM/IEEE International Conference for High Performance Computing, Networking, Storage, and Analysis (SC)*, 2019, pp. 1–10. DOI: 10.1109/WORKS49585.2019.00006. [Online]. Available: https://arxiv.org/pdf/1910.04223.

[2] R. Souza, L. Azevedo, R. Thiago, E. Soares, M. Nery, M. Netto, E. V. Brazil, R. Cerqueira, P. Valduriez, M. Mattoso, "Efficient runtime capture of multiworkflow data using provenance," in *IEEE International Conference on e-Science (eScience)*, 2019, pp. 1–10. DOI: 10.1109/eScience.2019.00047. [Online]. Available: https://hal-lirmm.ccsd.cnrs.fr/lirmm-02265932.

[3] R. Souza, V. Silva, J. J. Camata, A. L. G. A. Coutinho, P. Valduriez, M. Mattoso, "Keeping track of user steering actions in dynamic workflows," *Future Generation Computer Systems*, vol. 99, pp. 624–643, 2019, ISSN: 0167-739X. DOI: 10.1016/j.future.2019.05.011. [Online]. Available: https://hal-lirmm.ccsd.cnrs.fr/lirmm-02127456.

[4] R. Souza, V. Silva, A. L. G. A. Coutinho, P. Valduriez, M. Mattoso, "Data reduction in scientific workflows using provenance monitoring and user steering," *Future Generation Computer Systems*, vol. online, pp. 1–34, 2017, ISSN: 0167-739X. DOI: 10.1016/j.future.2017.11.028. [Online]. Available: https://hal-lirmm.ccsd.cnrs.fr/lirmm-01679967/document.