CURRICULUM VITAE
Alexandre da Silva Veith

December 2021

PERSONAL

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Birth date	03/05/1985
Nationality	Brazilian/ German
Gender	Male
Marital Status	Married
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BACKGROUND AND INTERESTS

I am currently a postdoctoral fellow in the Department of Computer Science at the University of Toronto. I have over 20 publications in top-tier venues. I hold a PhD in Computer Science (2019) from the École Normale Supérieure de Lyon, France, with a thesis that examines algorithms for big data analytics. My research covers mechanisms based on queueing theory, graph theory, reinforcement learning, federated learning and big data analytics. In addition to my research experience, I have over 13 years of professional experience in industrial process analysis, software development, system engineering, and IT management.

My research interests include machine learning, edge/fog/cloud computing, big data analytics, reinforcement learning, federated learning, Internet of Things, optimization and placement problems, scheduling, and real-time systems.

EDUCATION

2016 - 2020	École Normale Supérieure de Lyon, France.
	Ph.D. in Computer Science
	Supervisors: Laurent Lefevre and Marcos Dias de Assuncao
2012 - 2015	University of Vale dos Sinos – Unisinos, Brazil.
	M.Sc. in Computer Science
	Advisor: Rodrigo da Rosa Righi, Ph.D.
2003 - 2012	FEEVALE University, Brazil
	B.S. in Computer Science
	Supervisor: Gabriel da Silva Simões

PROFESSIONAL AFFILIATIONS AND SERVICES

University of Toronto

Postdoctoral Fellow (2019-present)

École Normale Supérieure De Lyon

Ph.D. Student (2016-2019)

Altero Design

1) Assistant of the Quality Management (2003-2009) 2) Software Developer and Analyst (2009-2011) 3) IT Manager (2011-2015)

SOFTWARE PATENT

2015 INPI - National Institute of Industrial Property(The Brazilian Patent and Trademark Office)

Register number: BR512015000695-9 Language: C Software title: BSPonP2P

TEACHING

January 2021 - *CSC2228 Advanced Topics in Mobile and Pervasive Computing: Edge Computing*, University of Toronto.

December 2018 - *Advanced Topics in Scalable Data Management* (M2), École Normale Supérieure de Lyon.

PUBLICATIONS

International Journals

da Silva Veith, Alexandre; Dias de Assunção, Marcos; Lefèvre, Laurent. *Latency-Aware Strategies for Deploying Data Stream Processing Applications on Large Cloud-Edge Infrastructure*. IEEE Transactions on Cloud Computing, 2021.

De Souza Junior, Paulo R. R.; Matteussi, Kassiano J.; **da Silva Veith, Alexandre**; Zanchetta, Breno F.; R. Q. Leithardt, Valderi; Lozano M., Álvaro; P. de Freitas, Edison; dos Anjos, Julio C. S.; R. Geyer, Claudio F.. *Boosting Big Data Streaming Applications in Clouds with BurstFlow*. IEEE Access, 2020, 8, pp. 219124 – 219136.

de Assunção, Marcos Dias; **da Silva Veith, Alexandre**; Buyya, Rajkumar. *Distributed Data Stream Processing and Edge Computing: A Survey on Resource Elasticity and Future Directions.* Journal of Network and Computer Applications, 2018, 103, pp. 1 – 17. (cited over 248 times as of Nov, 2021)

International Conferences

Ramprasad, Brian; **da Silva Veith, Alexandre**; Gabel, Moshe; de Lara, Eyal. *Sustainable Computing on the Edge: A System Dynamics Perspective*. The 22nd International Workshop on Mobile Computing Systems and Applications (HotMobile '21). February 2021, United Kingdom (Virtual Event), pp.64–70.

de Souza, Felipe Rodrigo; **da Silva Veith, Alexandre**; de Assunção, Marcos Dias; Caron, Eddy. *Scalable Joint Optimization of Placement and Parallelism of Data Stream Processing Applications on Cloud-Edge Infrastructure.* The 18th International Conference on Service-Oriented Computing (ICSOC 2020). December 2020, Dubai, UAE. pp. 149–164.

de Souza, Felipe Rodrigo; de Assunção, Marcos Dias; Caron, Eddy; **da Silva Veith, Alexandre**. *An Optimal Model for Optimizing the Placement and Parallelism of Data Stream Processing Applications on Cloud-Edge Computing.* The International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2020). September 2020, Porto, Portugal.

da Silva Veith, Alexandre; Dias de Assunção, Marcos; Lefèvre, Laurent. *Monte-Carlo Tree Search and Reinforcement Learning for Reconfiguring Data Stream Processing on Edge Computing*. The International Symposium on Computer Architecture and High Performance Computing. (SBAC-PAD 2019), October 2019, Campo Grande, Brazil. pp 48-55.

da Silva Veith, Alexandre; de Souza, Felipe Rodrigo; Dias de Assunção, Marcos; Lefèvre, Laurent; Santos dos Anjos, Julio Cesar. *Multi-Objective Reinforcement Learning for Reconfiguring Data Stream Analytics on Edge Computing*. The 48th International Conference on Parallel Processing. (ICPP 2019), August 2019, Kyoto, Japan. pp. 106:1–106:10.

Gibert Renart, Eduard; **da Silva Veith, Alexandre;** Balouek-Thomert, Daniel; de Assunção, Marcos Dias; Lefèvre, Laurent. *Distributed Operator Placement for IoT Data Analytics Across Edge and Cloud Resources*. The 19th Annual IEEE/ACM International Symposium in Cluster, Cloud, and Grid Computing (CCGrid 2019), May 2019, Larnaca, Cyprus. pp. 459-468.

da Silva Veith, Alexandre; de Assunção, Marcos Dias; Lefèvre, Laurent. *Latency-Aware Placement of Data Stream Analytics on Edge Computing*. The 16th International Conference on Service-Oriented Computing (ICSOC 2018), Nov 2018, Hangzhou, Zhejiang, China. pp. 1-15.

C. S. Anjos, Julio; Matteussi, Kassiano; R. R. De Souza Jr, Paulo; **da Silva Veith, Alexandre**; Fedak, Gilles; Luis Victoria Barbosa, Jorge and R. Geyer, Claudio. *Enabling Strategies for Big Data Analytics in Hybrid Infrastructures*. The 2018 International Conference on High Performance Computing & Simulation (HPCS 2018), 2018, pp. 869-876.

R. R. De Souza Jr, Paulo; Matteussi, Kassiano; C. S. Anjos, Julio; D. D. dos Santos, Jobe and R. Geyer, Claudio; **da Silva Veith, Alexandre**. *Aten: A Dispatcher for Big Data Applications in Heterogeneous Systems*. The 2018 International Conference on High Performance Computing & Simulation (HPCS 2018), 2018, pp. 585-592.

da Silva Veith, Alexandre; dos, A. J. C., de Freitas Edison Pignaton, J., L. T., and F., G. C.. *Strategies for Big Data Analytics Through Lambda Architectures in Volatile Environments*. 4th {IFAC} Symposium on Telematics Applications ({TA} 2016), November 2016, Porto Alegre, Brasil. pp. 114-119.

da Rosa Righi, Rodrigo; **da Silva Veith, Alexandre**; Rodrigues, Vinicius Facco; Rostirolla, Gustavo; da Costa, Cristiano André; Farias, Kleinner; Alberti, Antonio Marcos. *Rescheduling and Checkpointing as Strategies to Run Synchronous Parallel Programs on P2P Desktop Grids*. Proceedings of the 30th Annual ACM Symposium on Applied Computing (SAC '15). New York : ACM Press. 2015. pp. 501-504.

da Rosa Righi, Rodrigo; **da Silva Veith, Alexandre**; Rodrigues, Vinicius Facco; Rostirolla, Gustavo. *BSPonP2P: Towards Running Bulk-Synchronous Parallel Applications on P2P Desktop Grids*. International Conference on Parallel and Distributed Processing Techniques and Applications, 2015. pp. 374-380.

Book

da Silva Veith, Alexandre, Righi, Rodrigo. R.. *Computação Colaborativa de Aplicações Paralelas em Ambientes P2P*. NEA - Novas Edições Acadêmicas, 2015. ISBN: 9783639756210.

Book Chapter

da Silva Veith, Alexandre; Dias de Assunção, Marcos. *Apache Spark*. Encyclopedia of Big Data Technologies, 2018. DOI: 10.1007/978-3-319-63962-8_37-1, pp. 77-81.

Posters

Mishra, Pritish; **da Silva Veith, Alexandre**; de Lara, Eyal. Fledge: Edge-based Federated Learning Framework for Mobile Healthcare. SEC '21, 2021, San Jose, CA, USA.

Ramprasad, Brian; Chen, Hongkai; **da Silva Veith, Alexandre**; Truong, Khai; de Lara, Eyal. *Pain-o-vision, Effortless Pain Management.* MobiSys '21, 2021, New Your, NY, USA.

da Silva Veith, Alexandre; Dias de Assunção, Marcos; Lefèvre, Laurent. *Latency-Aware Strategies for Placing Data Stream Analytics onto Edge Computing*. USENIX Workshop on Hot Topics in Edge Computing (HotEdge 2018), 2018, Boston, USA.

National Conferences

da Silva Veith, Alexandre; Dias de Assunção, Marcos; Lefèvre, Laurent. *Assessing the Impact of Network Bandwidth and Operator Placement on Data Stream Processing for Edge Computing Environments*. Conférence d'informatique en Parallélisme, Architecture et Système, 2017.

da Silva Veith, Alexandre, Righi, Rodrigo. R.. *BSPonP2P: Model for Collaborative Computing at BSP Applications in P2P Desktop Grid*. Escola Regional de Alto Desempenho (ERAD), 2016.

CONFERENCE PRESENTATIONS

da Silva Veith, Alexandre (2019). *Multi-Objective Reinforcement Learning for Reconfiguring Data Stream Analytics on Edge Computing*. Talk presented at Kyoto, Japan. 48th International Conference on Parallel Processing. (ICPP 2019).

da Silva Veith, Alexandre (2019). *Distributed Operator Placement for IoT Data Analytics Across Edge and Cloud Resources*. Talk presented at Larnaca, Cyprus. 19th Annual IEEE/ACM International Symposium in Cluster, Cloud, and Grid Computing (CCGrid 2019).

da Silva Veith, Alexandre (2018). *Latency-Aware Placement of Data Stream Analytics on Edge Computing***.** Talk presented at Hangzhou, Zhejiang, China**.** 16th International Conference on Service-Oriented Computing (ICSOC 2018)**.**

da Silva Veith, Alexandre (2015). *BSPonP2P: Towards Running Bulk-Synchronous Parallel Applications on P2P Desktop Grids, 2015*. Talk presented at Las Vegas. International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA 2015).

Geyer, Cláudio; dos Anjos, Júlio; Schemmer, Raffael; **da Silva Veith, Alexandre** (2016). *Stream Processing em Cloud Computing*. Talk presented at ERAD - Escola Regional de Alto Desempenho do Estado do Rio Grande do Sul.

LANGUAGES

English: Fluent | Portuguese: Native | French: Intermediary

OTHERS

Technical Program committees

CCGrid 2022, ICFEC 2022, IEEE SmartComp 2022, ICPP 2020, InterCloud-HPC 2020, and ACM/IEEE Symposium on Edge Computing 2020 (Posters and demos).

Peer Review

IEEE Transactions on Cloud Computing, IEEE Transactions on Parallel and Distributed Systems, Information Sciences, Computing, IEEE Globecom, ACM Transactions on Autonomous and Adaptive Systems, and Communications of the ACM.