CURRICULUM VITAE

PERSONAL INFORMATION

Name: Lauro Beltrão Costa
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EDUCATION

PhD Candidate in Electrical and Computer Engineering

The University of British Columbia (UBC), Canada — Sep/2008 – Now
Advisor: Matei Ripeanu — GPA: A+

MSc in Computer Science

Universidade Federal de Campina Grande (UFCG), Brazil — 2004 – 2005
Advisor: Walfredo Cirne — GPA: 8.78 / 10 – not graded on a curve

BS in Computer Science

Universidade Federal de Campina Grande (UFCG), Brazil — 2000 – 2003
GPA: 8.64 / 10 – not graded on a curve (resulted in Professor Átila Almeida Award below)

AWARDS

Professor Átila Augusto Freitas de Almeida Award
For best academic performances among graduates of Technology and Science Center from Federal University of Campina Grande - CCT / UFCG

UBC Graduate Entrance Scholarship
Offered to top students entering in ECE graduate programs.
(http://www.grad.ubc.ca/awards/index.asp?menu=002,000,000,000)

UBC Four Year Doctoral Fellowship (4YF)
(http://www.grad.ubc.ca/awards/index.asp?menu=023,000,000,000)

WORK EXPERIENCE

Internship at Google Inc., 05/2013 – 08/2013 (3 months), Mountain View, USA

- Software Engineer at Google Feedback Group
- Enhancements in handling Android Crash Report for Google Feedback
- Java, bash, Google internal technology

Internship at Google Inc., 06/2010 – 09/2010 (3 months), Mountain View, USA

- Software Engineer at Cluster Management group
- Enhancements in Google protocol buffers specifically to Cluster Management group
- Improvements in the automatic integration process to test new versions of the system in a testbed
- C++, Python, Google protocol buffers, Google internal technology

Internship at Google Inc., 06/2009 – 09/2009 (3 months), Mountain View, USA

- Site Reliability Engineer at ContentAds group
- Evaluated load balancing approaches for ContentAds. Configured the system to use a new approach.
- Google internal technology

Internship at Fraunhofer ITWM, 03/2008 – 06/2008 (3 months), Kaiserslautern, Germany

- Development of Jawari, a Grid Computing benchmarking service. Part of the D-Grid Initiative. Details at www.jawari.net
- Java, Globus, OurGrid, Unicore, Linux, Postgresql, JBoss, Linux, Shell Script

Assistant Researcher at Distributed Systems Lab/UFCG, 01/2006 – 03/2008 (26 months), OurGrid project in cooperation with Hewlett-Packard, Brazil

- Research, design and implementation of NodeWiz, a Peer-to-Peer and fault-tolerant resource discovery system [11][14]
- Design and implementation of OurGrid software [15]. Details at www.ourgrid.org
- Java, RMI, Jabber based communication, Linux, Shell Script

Internship at Hewlett-Packard Laboratories at Palo Alto, 09/2006 – 12/2006 (3 months), USA

- Research and development of NodeWiz - Peer-to-Peer and fault-tolerant resource discovery system [11]
- Java, RMI, Jabber based communication, PlanetLab

Network administrator (CEFET/AL), 03/1999 – 12/1999 (10 months), Brazil

- System and network administration of CEFET's Laboratories
- Linux, Windows NT

RESEARCH AND DEVELOPMENT DURING GRADUATE STUDIES

***MosaStore*, 09/2010 – now, PhD studies**

- Configurable distributed scavenged storage system for workflow applications. Automating the configuration for this system. [1][2][3][5][8][9][10]
- Research, design and implementation of MosaStore system and an automated configuration solution
- Java, C, C++, JUnit, performance evaluation

Totem – graph-processing framework for hybrid platforms. 01/2010 – now, PhD studies

- Research, design, and implementation of a framework to support graph algorithms on hybrid platforms (GPU + CPU) [4][6][7]
- C, nNivida CUDA, performance analysis, unit tests

***OurGrid* –Grid Scheduling, 01/2004 – 12/2005 (24 months), M.Sc. studies, Scholarship from Hewlett-Packard**

- Master thesis on integration of space-shared resources and grids at LSD/UFCG – Advisor: Professor Walfredo Cirne
- Research on Grid and Supercomputer scheduling, design and development a scheduling solution for OurGrid [13][17][18][19]
- Java, JNI, RMI, C++ ("translated" a simulator to Java)

***OurGrid* –MyGrid Broker, 01/2003 – 12/2003 (24 months), Undergraduate studies, Scholarship from Hewlett-Packard**

- LSD/UFCG – Advisor: Professor Walfredo Cirne
- Design and implementation of OurGrid software [16][15][20]
- Java, RMI

MyGrid Broker, 06/2001 – 05/2002 (12 months), Undergraduate studies, Scholarship from CNPq (National Counsel of Technological and Scientific Development)

- LSD/UFCG – Advisor: Professor Walfredo Cirne
- Design and implementation of MyGrid software (currently an OurGrid's component) [20][21]
- Java, RMI

PUBLICATIONS

[1] The Case for Workflow-Aware Storage: An Opportunity Study. Lauro Beltrão Costa, Hao Yang, Emalayan Vairavanathan, Abmar Barros, Kethan Maheshwari, Gilles Fedak, Daniel Katz, Michael Wilde, Matei Ripeanu and Samer Al-Kiswany. Journal of Grid Computing. Accepted in June 2014

[2] Supporting Storage Configuration for I/O Intensive Workflows. Lauro Beltrão Costa, Samer Al-Kiswany, Hao Yang, Matei Ripeanu. 28th ACM International Conference on Supercomputing (ICS '14), June 2014

[3] Predicting Intermediate Storage Performance for Workflow Applications. Lauro Beltrão Costa, Samer Al-Kiswany, Abmar Barros, Hao Yang, Matei Ripeanu. 8th Parallel Data Storage Workshop (PDSW '13) in conjunction with SuperComputing '13, November 2013

[4] The Energy Case for Graph Processing on Hybrid CPU and GPU Systems Abdullah Gharaibeh, Elizeu Santos-Neto, Lauro Beltrão Costa, Matei Ripeanu. Workshop on Irregular Applications: Architectures & Algorithms (IA3) in conjunction with SuperComputing '13, November 2013

[5] A Case for Workflow-Aware Storage: An Opportunity Study using MosaStore. Lauro Beltrão Costa, Hao Yang, Emalayan Vairavanathan, Ketan Maheshwari, Samer Al-Kiswany, Abmar Barros, Gilles Fedak, Daniel Katz, Michael J Wilde, Matei Ripeanu. Submitted in August 2013

[6] On Graphs, GPUs, and Blind Dating: A Workload to Processor Matchmaking Quest, Abdullah Gharaibeh, Lauro Beltrão Costa, Elizeu Santos-Neto, Matei Ripeanu. IEEE International Parallel & Distributed Processing Systems (IPDPS), May 2013

[7] A Yoke of Oxen and a Thousand Chickens for Heavy Lifting Graph Processing. Abdullah Gharaibeh, Lauro Beltrão Costa, Elizeu Santos-Neto and Matei Ripeanu. IEEE/ACM International Conference on Parallel Architectures and Compilation Techniques (PACT 2012) September 2012

[8] A Workflow-Aware Storage System: An Opportunity Study. Emalayan Vairavanathan, Samer Al-Kiswany, Lauro B. Costa, Zhao Zhang, Daniel Katz, Michael Wilde, Matei Ripeanu. 12th International Symposium on Clusters, Cloud, and Grid Computing (CCGrid '12), May 2012

[9] Assessing Data Deduplication Trade-offs from an Energy Perspective. Lauro Beltrão Costa, Samer Al-Kiswany, Raquel Vigolvino Lopes and Matei Ripeanu. Workshop on Energy Consumption and Reliability of Storage Systems (ERSS), July 2011

[10] Towards Automating the Configuration of a Distributed Storage System. Lauro B Costa, and Matei Ripeanu. 11th ACM/IEEE Conference on Grid Computing, October 2010

[11] Nodewiz: A Fault-tolerant Grid Information Service. Sujoy Basu, Lauro Beltrão Costa, Francisco Brasileiro, Sujata Banerjee, Puneet Sharma, Sung-Ju Lee. Peer-to-Peer Network and Applications, ISSN 1936-6450, December 2009

[12] GPU Support for batch oriented workloads. Lauro B Costa, Samer Al-Kiswany and Matei Ripeanu 28th IEEE International Performance Computing and Communications Conference, December 2009

[13] Allocation Strategies for Utilization of Space Shared Resources in Bag of Tasks Grids. César de Rose, Tiago Ferreto, Rodrigo Calheiros, Walfredo Cirne, Lauro Costa, Daniel Fireman. Future Generation Computer Systems, Volume 24, Issue 5, Pp 331-341. ISSN:0167-739X, May 2008

[14] A large scale fault-tolerant grid information service. Francisco Brasileiro, Lauro Costa, Alisson Andrade, Walfredo Cirne, Sujoy Basu, Sujata Banerjee. 4th International Workshop on Middleware for Grid Computing - MGC 2006, November 2006

[15] Labs of the World, Unite!!! Walfredo Cirne, Francisco Brasileiro, Nazareno Andrade, Lauro Costa, Alisson Andrade, Reynaldo Novaes and Miranda Mowbray. Journal of Grid Computing, Volume 4, Number 3, Pp 225-246. ISSN1570-7873, September 2006

[16] Building a User-Level Grid for BoT Applications. Walfredo Cirne, Francisco Brasileiro, Daniel Paranhos, Lauro Costa, Elizeu Santos-Neto and Carla Osthoff. Book Chapter "High Performance Computing: Paradigm and Infrastructure". Laurence T. Yang, Minyi Guo, editors. John Wiley & Sons Inc., October 2005

[17] Converting Space Shared Resources into Intermittent Resources for use in Bag-of-Tasks Grids. Lauro Beltrão Costa, Walfredo Cirne and Daniel Fireman. Proceedings of the 17th Symposium on Computer Architecture and High Performance Computing (SBAC-PAD'2005), October 2005

[18] Peer-to-peer Grid Computing with the OurGrid Community. Nazareno Andrade, Lauro Costa, Guilherme Germoglio and Walfredo Cirne. Proceedings of SBRC 2005 - Salão de Ferramentas (23rd Brazilian Symposium on Computer Networks - IV Special Tools Session), May 2005

[19] Scheduling in Bag-of-Task Grids: The Pauá Case. Walfredo Cirne, Francisco Brasileiro, Nazareno Andrade, Lauro Costa, Daniel Paranhos, Elizeu Santos-Neto, César De Rose, Tiago Ferreto, Miranda Mowbray, Roque Scheer and João Jornada. Proceedings of the 16th Symposium on Computer Architecture and High Performance Computing (SBAC-PAD'2004), October 2004

[20] MyGrid: A complete solution for Running Bag-of-Tasks Applications. Lauro Beltrão Costa, Loreno Feitosa, Eliane Araújo, Gustavo Mendes, Roberta Coelho, Walfredo Cirne and Daniel Fireman. Proceedings of SBRC 2004 - Salão de Ferramentas (22nd Brazilian Symposium on Computer Networks - III Special Tools Session), May 2004

[21] Running Bag-of-Tasks Applications on Computational Grids: The MyGrid Approach. Walfredo Cirne, Daniel Paranhos, Lauro Costa, Elizeu Santos-Neto, Francisco Brasileiro, Jacques Sauvé, Fabrício Silva, Carla Osthoff Barros and Cirano Silveira. Proceedings of the ICCP'2003 - International Conference on Parallel Processing, October 2003