

Curriculum Vitae

Wilfredo Enrique Lugo-Beauchamp obtained his Bachelor's Degree in Computer Engineering from the University of Puerto Rico at Mayagüez (UPRM) in December 1998 and started his Master degree in January 1999. In June of the same year he started working at Hewlett Packard (Aguadilla site) as an Information Technology (IT) Specialist. His major responsibilities were HP-UX and Linux operating systems administration, Oracle and Informix database administration, and IT infrastructure support for the manufacturing high-availability environment. In November 2001, he was selected to form part of the recently formed Hewlett Packard Technology Center (HPTC), which was a joint venture between Hewlett Packard and the government of Puerto Rico with the purpose of increasing Research and Development activities in the island. During that time, he worked as a Software Designer Specialist and participated on several development activities in the area of High Performance Computing, GRID computing and Data Center provisioning, while continuing pursuing his Master's degree as a part-time student in the Digital Signal Processing area.

In May 2005 he obtained his Master's Degree in Sciences of Computer Engineering with his thesis titled "*Parallelization of hyperspectral imaging classification and dimensionality reduction algorithms*". That same year, he left Hewlett Packard and joined Commoca Inc. as a Member of Technical Staff. Commoca was a local start-up based in Mayagüez which aimed to develop an Internet Protocol Phone (IPP) using Voice Over IP (VoIP) technology. Wilfredo was in charge of the phone remote provisioning mechanism during the two years he worked there.

In February 2007 he rejoined Hewlett Packard and HPTC on his former role as a Software Designer with emphasis on Software Project Management. During that time he worked on both development tasks and leading different software prototypes based on Data Center efficiency technologies. In 2010 he transferred to the Diagnostics and Tool Development group under the Supply Chain Global Engineering Services organization which delivers diagnostics tools to Hewlett Packard Enterprise manufacturing sites worldwide. He was promoted in April 2012 to System Engineer-Expert where he was the Technical Lead for software development overseeing all software development activities in the diagnostics supply chain space. In June 2015 he joined the TCE&Q organization in a Master Quality Data Scientist role and he is currently working on identifying quality issues by joining and correlating data sets and using machine learning techniques to predict quality outcomes.

In 2009, Wilfredo enrolled in UPRM's Computer Information Systems and Engineering (CISE) PhD program which he completed on December 2016. He worked under the advisory of Dr. Jaime Seguel and his area of research was Bioinformatics with emphasis on DNA unbalanced sequence alignments. He is also a member of UPRM's Electrical and Computer Engineering Department Industry Advisory Board since 2008. He is a Certified Project Manager (PMP) since 2005, Lean Six Sigma Green Belt since 2012 and LSS Black Belt since March 2016.

Awards

1. HP President's Quality Award

In 2013, Wilfredo was part of the Memory Quality Performance team that won the President Quality Award which prevented more than 118,000 Proliant customer outages and reduce defective memory components in Gen8 servers by 50%. In overall this initiative saved HP around \$412M in warranty and product cost. Wilfredo specific role on this initiative was to oversight the specific improvements on the Memory Diagnostics tools. Improvements list include the removal of the custom Operating System for memory diagnostics and adding a threshold based approach for those tests.

Patents

1. [EVENT DETECTION FROM ATTRIBUTES READ BY ENTITIES](#) (Granted)
M Marwah, RK Sharma, WE Lugo
US Patent App. 12/399,488
2. [Visual Data Center Capacity Planning](#) (Granted)
WE Lugo, LG Chardon
US Patent App. 12/990,463
3. [Prediction Of Systems Location by Using Correlation Coefficients](#) (Pending)
WE Lugo
US Patent App. 12/919,153

Publications

- **Local Alignment on Highly Unbalanced DNA Sequence Lengths**, Wilfredo Lugo, Thesis for: Doctor of Philosophy in Computing and Information Science and Engineering, University of Puerto Rico at Mayagüez. December 2016.
- **A Fast and Accurate Parallel Algorithm for Genome Mapping Assembly Aimed at Massively Parallel Sequencers**, Wilfredo Lugo, Jaime Seguel, The 4th International Workshop on Parallel and Cloud-Based Bioinformatics and Biomedicine, 2015.
- **Anomalous Thermal Behavior Detection in Data Centers using Hierarchical PCA**, Manish Marwah, Ratnesh Sharma, Wilfredo Lugo, Lola Bautista, The 4th International Workshop on Knowledge Discovery from Sensor Data, 2010
- **From Component to Corporation: An Approach for Integrated Environmental Assessments**, Wilfredo Lugo, Amip Shah, Kiara Corrigan, Alexandra Degher, Carlos Félix, Jorge Andujar, Honorable Mention, Hewlett Packard TechCon 2010
- **Susua 3D – A New Way to Analyze the Thermal Behavior in Data Centers**, Ernesto Ferrer, Wilfredo Lugo, Luis Chardón, Honorable Mention, Hewlett Packard TechCon 2010
- **Application of data analytics to heat transfer phenomena for optimal design and operation of complex systems**, Ratnesh Sharma, Manish Marwah, Wilfredo Lugo, ASME Summer Heat Transfer Conference, (HT2009-88550) 2009

- **Thermodynamics-Based Object-Oriented Environmental Design of an Industrial Air-Conditioner**, Amip Shah, Wilfredo Lugo, Chandrakant Patel, ASME Summer Heat Transfer Conference, (HT2009-88105) 2009
- **Autonomous Detection of Thermal Anomalies in Data Centers**, Manish Marwah, Ratnesh Sharma, Wilfredo Lugo, ASME InterPACK Conference, 2009
- **ESAT : A New Software Tool for Ecosystem-Level Sustainability Assessment**, Ricardo Tirado, Amip Shah, Wilfredo Lugo, Royston Sellman, Hewlett Packard TechCon (2009)
- **Stream mining of sensor data for anomalous behavior detection in datacenters**, Manish Marwah, Ratnesh Sharma, Lola Bautista, Wilfredo Lugo, Technical Report HPL-2008-40, HPL Labs, 2008
- **A Service Oriented Architecture Grid Based Environment For Hyperspectral Imaging Analysis**, Wilson Rivera, Carmen Carvajal & Wilfredo Lugo, International Journal of Information Technology, Vol 11. No. 4, pp. 104-111 (2005)
- **A grid service-based tool for hyperspectral imaging analysis**, C. Carvajal, W. Lugo, W. Rivera. Algorithms and technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery XI. Edited by Shen, Sylvia S.; Lewis, Paul E. Proceedings of the SPIE, Volume 5806, pp. 764-771 (2005)
- **Performance of Hyperspectral Imaging Algorithms on IA-64** Wilfredo Lugo-Beauchamp, Carmen L. Carvajal-Jiménez, and Wilson Rivera. The IASTED International Conference on Circuits, Signals, and Systems, Clearwater Beach, Florida, USA - November 28 - December 1, 2004
- **Grid-HSI: Using Grid Computing to Enable Hyperspectral Imaging Analysis**. Carmen L. Carvajal-Jiménez, Wilfredo Lugo-Beauchamp, and Wilson Rivera. The IASTED International Conference on Communications, Internet, and Information Technology. St. Thomas, US Virgin Islands - November 22-24, 2004
- **Focal Plane Processing Architectures for Real-time Hyperspectral Image Processing**, Sek M. Chai, Antonio Gentile, Wilfredo E. Lugo-Beauchamp, Javier Fonseca, José L. Cruz-Rivera, D. Scott Wills. Applied Optics Journal. Jan. 2000
- **K-Means Clustering Algorithm using SIMPil Architecture**. W. Lugo-Beauchamp, J. L. Cruz-Rivera. The Symposium on Computing at Minority Institutions, Duluth, Minnesota. June, 1999
- **Hyper-spectral Image Processing Applications on the SIMD Pixel Processor for the Digital Battlefield**, Sek M. Chai, Antonio Gentile, Wilfredo E. Lugo-Beauchamp, José L. Cruz-Rivera, D. Scott Wills IEEE Workshop on Computer Vision Beyond the Visible Spectrum: Methods and Applications, Fort Collins, Colorado 1999
- **Real-Time Image Processing on a Focal Plane SIMD Array**. Antonio Gentile, José L. Cruz-Rivera, D. Scott Wills, Leugim Bustelo, José J. Figueroa, Javier E. Fonseca-Camacho, Wilfredo E. Lugo-Beauchamp, Ricardo Olivieri, Marlyn Quiñones-Cerpa, Alexis Rivera-Rios, Iomar Vargas-González, Michelle Viera-Vera Proceedings of the Seventh International Workshop on Parallel and Distributed Real-Time Systems, San Juan, Puerto Rico, 1999
- **The pre-college engineering program at the University of Puerto Rico-Mayaguez : methods and assessment**, Beauchamp-Baez, G.; Cruz-Rivera, J.L.; Lugo-Beauchamp, W.; Frontiers in Education Conference, 1998. FIE '98. 28th Annual ,Volume: 3 , 4-7 Nov. 1998 Pages:1274 - 1278 vol.3