

Miguel Alonso Jr

Curriculum Vitæ

February 2019

Visiting Associate Professor
School of Computing and Information Sciences
Florida International University
11200 SW 8th ST, ECS 254A
Miami, FL 33199

Phone: 305-348-4848
Cell Phone: 305-490-7240
Email: malonsoj@cs.fiu.edu - malonsoj@fiu.edu
Alt: drmiguelalonsojr@gmail.com
Web: <http://miguelalonsojr.com>

Education

Ph.D., Electrical and Computer Engineering, Florida International University, 2007

Areas: Computer Vision, Artificial Intelligence, Modern Control

Dissertation: A method for enhancing digital information displayed to computer users with visual refractive errors via spatial and spectral based processing

M.S., Computer Engineering, Florida International University, 2003

Areas: Image Processing and Computer Vision

B.S., Computer Engineering, Florida International University, 2001

Current Research Interests

- Deep Learning for Computer Vision, Robotics, Perception, and Control
- Deep Reinforcement Learning and Optimal Control
- *SmallData* and Distributed AI/ML
- Broad Applications of Artificial Intelligence and Machine Learning

Teaching Areas

Artificial Intelligence, Machine Learning, Image Processing, Computer Vision, Deep Learning, Data Science, Data Mining, Modern Control Systems, Robotics

Professional Appointments

Associate Professor (Visiting), School of Computing and Information Sciences, Florida International University. Miami, FL, (2018-present)

Associate Professor, Data Science, Florida International University. Miami, FL, (2017- 2018)

Director of Research and Economic Development, Chaplin School of Hospitality & Tourism Management, Florida International University. Miami, FL, (2016-2017)

VP/Senior Software Engineer, Electricity Labs LLC. Miami, FL, (2015-2016)

Chief Technology Officer, Inceptures LLC., Hollywood, FL, (2014-2015)

Founder and Chief Executive Officer, Slingshot Labs LLC. Miami, FL, (2014-2017)

Co-founder and Chief Technology Officer, Doxio.co. Miami, FL, (2012-2014)

Chairperson, Department of Engineering, Miami Dade College. Miami, FL, (2011-2014)

Associate Professor, Electronics and Computer Engineering, Miami Dade College. Miami, FL, (2010-2014)

Assistant Professor, Electronics and Computer Engineering, Miami Dade College. Miami, FL, (2007-2010)

Software Engineer, Algorithm Research and Development Group, Beckman Coulter Inc. Miami, FL, (2007)

Computer Engineer, CPS Products Inc. Miami, FL, (2001-2002)

Administrative Activities

Director, Data Science and Artificial Intelligence Lab, FIU, (2017-2018)

Graduate Program Director, MS Data Science – Hospitality Track, (2017-2018)

Director of Research and Economic Development, FIU, (2016-2017)

Director, Computing Research Lab, Miami Dade College, (2009-2014)

Chairperson, Engineering, Miami Dade College, (2011-2014)

Publications

Refereed Journal Articles

- [1] J. Huang, A. Barreto, M. Alonso Jr, and M. Adjouadi, “Image Pre-Compensation for Visually Impaired Computer Users with Variable Pupil Size,” in *Emerging Trends in Computing, Informatics, Systems Sciences, and Engineering*, Springer, New York, NY, 2013, pp. 171–182.
- [2] A. Gates, F. Naveda, F. Klett, M. Alonso Jr, R. Romero, and D. Grewal, “Cultivating entrepreneurial thinking through IEEE-CS student chapters,” *Computer*, vol. 44, no. 4, pp. 48–55, 2011.
- [3] M. Alonso Jr, A. Barreto, and M. Adjouadi, “Digital image inverse filtering for improving visual acuity for computer users with visual aberrations,” *Inverse Problems in Science and Engineering*, vol. 16, no. 8, pp. 957–966, 2008.
- [4] M. Alonso Jr and A. Barreto, “Polychromatic considerations for the compensation of the wavefront aberration of the human eye.,” *Biomedical sciences instrumentation*, vol. 43, pp. 218–223, 2007.
- [5] C. Chin, A. Barreto, and M. Alonso Jr, “Electromyogram-based cursor control system for users with motor disabilities,” in *International Conference on Computers for Handicapped Persons*, 2006, pp. 905–912.
- [6] M. Alonso Jr, A. Barreto, M. Adjouadi, and J. A. Jacko, “HOWARD: High-Order Wavefront Aberration Regularized Deconvolution for enhancing graphic displays for visually impaired computer users,” in *International Conference on Computers for Handicapped Persons*, 2006, pp. 1163–1170.

- [7] M. Alonso Jr, “A method for enhancing digital information displayed to computer users with visual refractive errors via spatial and spectral based processing,” *ACM SIGACCESS Accessibility and Computing*, no. 84, pp. 22–25, 2006.
- [8] M. H. Choudhury, A. Barreto, and M. Alonso Jr, “A Bioinstrumentation System for the Identification of EEG Correlates of Tinnitus,” *Biomedical sciences instrumentation*, vol. 41, pp. 169–174, 2005.
- [9] M. Alonso Jr, A. Barreto, J. G. Cremades, J. A. Jacko, and M. Adjouadi, “Image pre-compensation to facilitate computer access for users with refractive errors,” *Behaviour & Information Technology*, vol. 24, no. 3, pp. 161–173, 2005.
- [10] M. Alonso Jr, A. Barreto, M. Choudhury, J. A. Jacko, and M. Adjouadi, “Software-based compensation of visual refractive errors of computer users.,” *Biomedical sciences instrumentation*, vol. 41, pp. 229–234, 2005.
- [11] M. Alonso Jr, A. Barreto, and J. G. Cremades, “Image pre-compensation to facilitate computer access for users with refractive errors,” in *ACM SIGACCESS Accessibility and Computing*, 2004, pp. 126–132.
- [12] M. Alonso Jr and A. Barreto, “An Improved Method of Pre-Deblurring Digital Images Towards the Pre-Compensation of Refractive Errors,” *WSEAS Transactions on Computers*, vol. 3, no. 2, pp. 487–92, 2004.
- [13] M. Alonso Jr and A. Barreto, “An Image Processing Approach to Pre-compensation for Higher-Order Aberrations in the Eye,” *Systemics Cybernetics and Informatics*, vol. 2, no. 3, pp. 14–17, 2004.
- [14] M. Alonso Jr and A. Barreto, “An Affordable Platform for Learning Real-Time Adaptive Signal Processing,” *INTERNATIONAL JOURNAL OF ENGINEERING EDUCATION*, vol. 20, no. 1, pp. 39–45, 2004.
- [15] M. Alonso Jr and A. Barreto, “Real-time Computer Station for the Teaching of Adaptive Signal Processing,” *The ASEE Computers in Education (CoED) Journal*, vol. 8, no. 1, 2003.
- [16] M. Alonso Jr and A. Barreto, “Digital image processing for pre-compensation of high-order aberrations of the human eye.,” *Biomedical sciences instrumentation*, vol. 39, pp. 99–104, 2003.

Book Chapters

- [17] J. Huang, A. Barreto, M. Adjouadi, and M. Alonso, “Contrast Enhancement in Image Pre-Compensation for Computer Users with Visual Aberrations,” in *Innovations and Advances in Computer, Information, Systems Sciences, and Engineering*, Springer, 2013, pp. 371–380.

Conference Proceedings

- [18] M. Alonso Jr., ”Learning user preferences via Reinforcement Learning with Spatial Interface Valuing”, 21st International Conference on Human-Computer Interaction Parallel Session on Spatial Interfaces for Universal Access, 26-31 July 2019.
- [19] Traynor, P. and Alonso Jr., M. (2018). Work in Progress: Applying Machine Learning Towards Modelling Tourist Visitor Expenditure. Proceedings from the EuroCHRIE 2018 conference, Dublin, Ireland, 07-09 November 2018.
- [20] J. Huang, A. Barreto, M. Alonso, and M. Adjouadi, “Image Pre-Compensation for Visually Impaired Computer Users with Variable Pupil Size,” in *Emerging Trends in Computing, Informatics, Systems Sciences, and Engineering*, Springer, 2013, pp. 171–182.
- [21] J. Huang, A. Barreto, M. Alonso, and M. Adjouadi, “Vision correction for computer users based on image pre-compensation with changing pupil size,” in *Engineering in Medicine and Biology Society, EMBC, 2011 Annual International Conference of the IEEE*, 2011, pp. 4868–4871.

- [22] M. Alonso Jr, S. Hug, and H. Thiry, “Work in progress: Recruiting computing students through in-command CS-0: An introduction to computing through mobile application development,” in 2011 ASEE Annual Conference & Exposition, 2011, pp. 22–1706.
- [23] M. Alonso Jr, A. Barreto, and M. Adjouadi, “Digital image inverse filtering for improving visual acuity for computer users with visual aberrations,” *Inverse Problems in Science and Engineering*, vol. 16, no. 8, pp. 957–966, 2008.
- [24] M. Alonso Jr, A. Barreto, and M. Adjouadi, “Development and evaluation of a custom display compensation method for computer users based on individual visual characteristics,” in 16th Int. Conf. Comp, 2007.
- [25] M. Alonso Jr, A. Barreto, J. A. Jacko, and M. Adjouadi, “A multi-domain approach for enhancing text display for users with visual aberrations,” in Proceedings of the 8th international ACM SIGACCESS conference on Computers and accessibility, 2006, pp. 34–39.
- [26] M. H. Choudhury, A. Barreto, and M. Alonso, “An auditory evoked potential measurement system to study tinnitus,” in SoutheastCon, 2005. Proceedings. IEEE, 2005, pp. 169–173.
- [27] M. Alonso, A. Barreto, J. A. Jacko, M. Adjouadi, and M. Choudhury, “Improving computer interaction for users with visual acuity deficiencies through inverse point spread function processing,” in SoutheastCon, 2005. Proceedings. IEEE, 2005, pp. 421–427.
- [28] M. Alonso Jr, A. Barreto, J. A. Jacko, and M. Adjouadi, “Verification of computer display pre-compensation for visual aberrations in an artificial eye,” in Proceedings of the 7th international ACM SIGACCESS conference on Computers and accessibility, 2005, pp. 210–211.
- [29] M. Alonso Jr, A. Barreto, and J. G. Cremades, “Image pre-compensation to facilitate computer access for users with refractive errors,” in ACM SIGACCESS Accessibility and Computing, 2004, pp. 126–132.
- [30] M. Alonso Jr. and A. Barreto, “An Image Processing Approach to Pre-Compensation for Higher-Order Aberrations in the Eye,” Proceedings of the 7th World Multi-conference on Systemics, Cybernetics, and Informatics (SCI 2003), Orlando, FL, pp. IV-88 - IV-92, 2003.
This paper was designated as the Best Paper in the session “Image and Multidimensional Signal Processing”, by the General Chair of the SCI 2003 conference
- [31] M. Alonso Jr. and A. Barreto, “Pre-Compensation for High-Order Aberrations of the Human Eye Using On-Screen Image Deconvolution,” Proceedings of the 25th IEEE Engineering in Medicine and Biology Society Annual International Conference, Cancun, Mexico, pp. 556-559, 2003.
- [32] M. Alonso Jr., F. Perez, and A. B. Barreto, “On-screen Deblurring of Images to Enhance the Interaction between Computers and Low-Vision Users,” Proceedings of The Florida Conference on Recent Advances in Robotics, Miami, FL, (CDROM format), 2002.

Manuscripts in Review

- [33] H. Tian, M. Reyes, Y. Tao, T. Wang, S. Pouyanfar, M. Alonso Jr., S. Luis, M. Shyu, S. Chen, S. Iyengar, “Harnessing Insights from Airline Industry Data: A Survey and New Perspectives”, *ACM Computing Surveys*, 2018, (In Review)
- [34] L. Cain, J. Thomas, and M. Alonso Jr., “From sci-fi to sci-fact: The state of robotics and AI in the hospitality industry”, *Journal of Hospitality and Tourism Technology - Special Issue: Progress on Information Technology in Hospitality and Tourism*, 2018, (In Review)

Manuscripts in Preparation

- [35] H. Tian, M.U. Tariq, M.P. Reyes, T. Wang, M. Haseeb, T. Eslami, Y. Tao, M.G. Awan, M.S. Sadiq, Y. Tu, S.V. Perez, M. Alonso Jr, S. Luis, F. Saeed, M. Shyu, S. Chen, S.S. Iyengar, “A Survey on Data Science Problems: Techniques, Tool and Applications”, 2019.
- [36] P. Traynor, M. Alonso Jr., and J. Zhu, “Applying Machine Learning Towards Modeling Tourist Visitor Expenditure”, *Journal of Tourism Management*, (In Preparation)

Awards and Honors

NeurIPS - Google Travel Grant Awardee, (2018)

Chancellor’s Leadership Seminar Attendee, St. Petersburg, FL in June, (2012)

AACC Future Leadership Institute Attendee, (2012)

Excellence in Teaching Award, Miami Dade College, (2011)

Academic Career Workshop Attendance and Travel Award – Richard Tapia Celebration of Diversity of Computing, April 4 -5, (2009)

Dean’s Award (\$2K stipend), Florida International University, (2006-07)

Florida International University Dissertation Year Fellow (\$15K over 9 months), (2006-2007)

The 8th International ACM SIGACCESS Conference on Computers and Accessibility- Invited Attendee, (2006)

The 10th International Conference on Computers Helping People with Special Needs (ICCHP) Young Researcher Consortium Fellow, Linz, Austria, (2006)

The 10th International Conference on Computers Helping People with Special Needs (ICCHP) Best Young Researcher Award, Linz Austria, (2006)

The 7th International ACM SIGACCESS Conference on Computers and Accessibility- Doctoral Consortium Fellow, Baltimore, MD, (2005)

National Science Foundation Graduate Research Fellow (\$121.5K over 3 yrs.), (2003-2006)

Outstanding Master’s Student - Florida International University, Miami, Fl., (2003)

Vice President, Tau Beta Pi Engineering Honor Society, (2000)

IBM Hispanic Scholar, (2000 – 2001)

Grants and Fellowships

Total amount secured to date: **\$1,672,167**

“A machine learning approach to the prediction of mycotoxin risk in US wines”

USDA NIFA – AFRI Improving Food Safety Program Area Priority Code –A1331

PD: Aaron Welch (Florida International University), **Co-PD: Miguel Alonso Jr.** (Florida International

University), Co-PD: John Berry (Florida International University)
 Funded amount: **\$258,250** for 3 years (Q1 2017 – Q1 2020)

“Cisco/Silicon Valley-Internet of Things Certificate Program”
 Cisco Foundation

PD: Kemal Akaya (Florida International University), **Co-PD: Miguel Alonso Jr.** (Florida International University), Lisa Cain (Florida International University), Selcuk Uluagac (Florida International University)
 Funded amount: **\$299,473** for 3 years (Q3 2018 – Q2 2021)

“BPC-LSA: Scaling and Adapting CAHSI Initiatives”

NSF-CISE (Computer & Information Science and Engineering), Broadening Participation in Computing Program

PI: Miguel Alonso Jr. (Miami Dade College), Co-PI’s: Danmary Albertini (Miami Dade College), James Poe (Miami Dade College), Rocio Guillen-Castrillo (Cal State San Marcos), Andres Figueroa (University of Texas-Pan American)

Collaborators: University of Texas at El Paso, University of Colorado

Award Number: CNS-0940575

Funded amount: **\$970,219** for 4 years (Q1 2010 – Q1 2014)

“SISTEM: Summer Institute for Science, Technology, Engineering, and Mathematics” at MDC

PI: Ian Davis, **Co-PI: Miguel Alonso Jr.**, Diane McKinney, Michael McGauley, Jose Orta

Key Personnel: Vanya Albury, René Barrientos, Sol González, Jeff Miller, Jorge Salinas, Alejandro Viera
 January 2008 – July 2008

Agency: Motorola, Inc.

Amount: **\$22,725**

The National Science Foundation Graduate Research Fellowship

NSF-GRFP (Graduate Research Fellowship Program)

PI: Miguel Alonso Jr.

Funded amount: **\$121,500** for 3 years, 2003 - 2006

Invited Talks

The F.A.T.E. of Artificial Intelligence: Challenges and Opportunities, Mixtape Mondays, The Patricia and Phillip Frost Art Museum, Miami, FL, (2019)

AI and ML: Use cases in the Healthcare Industry, Health Professions Network Fall Conference, Ft. Lauderdale, FL (2018)

A Machine Learning Primer, Citrix Systems, Ft. Lauderdale, FL (2018)

Hype Miami: It’s a H.I.T, Talking Hospitality Industry and Technology, Miami, FL (2016)

Tech Talks: Entrepreneurship as a pathway for Engineering Students, Wynwood, Miami, FL (2014)

“Customer Development: The Lean Way”, Lean Startup Machine Workshop, Miami, FL (2014)

“Data Analysis: Using R for robust analysis of experimental data”, MDC School of Science Lecture Series, Miami, FL (2013)

“Bridging the Gap between Education and Industry – MDC’s Nuclear Power Technology”, The American Association of Community Colleges Workforce Development Institute, Ft. Pierce, FL (2012)

“Affinity Research Groups: Empowering Undergraduates in Mobile Computing Research”, Mobile Technology Consortium, Miami, FL, (2010)

“The Affinity Research Group Model: Integrating Undergraduate Research at MDC”, Analysis of Teaching Research Presentation, Miami, FL, (2009)

“Adaptation of Digital Displays for Users with Visual Aberrations”, Invited Lecturer for the Lecture Series ‘Science under the Stars’, presented at St. Thomas University, Miami, FL, (2008)

Conference Activity/Participation

Panels Organized

E-Merge Americas 2014 Conference – Education 2.0 Panel Discussion on the State of Entrepreneurship Education in Colleges and Universities, (2014)

Papers Presented

- [1] “Work in Progress: Applying Machine Learning Towards Modelling Tourist Visitor Expenditure.”, presented at the EuroCHRIE 2018 conference, Dublin, Ireland, 2018.
- [2] “Digital image inverse filtering for improving visual acuity of computer users with visual aberrations”, presented at the Inverse Problems, Design, and Optimization Symposium, Miami, FL, 2007.
- [3] “Polychromatic Considerations for the Compensation of the Wave front Aberration of the Human Eye”, presented at the 44th Annual Rocky Mountain Bioengineering Symposium, Denver, CO, 2007.
- [4] “High-Order Wave front Aberration Regularized Deconvolution for enhancing graphic displays for visually impaired computer users.” The 10th International Conference on Computers Helping People with Special Needs (ICCHP) 2006, Linz, Austria. **This presentation received the “Best Presentation Award” at ICCHP 2006, in Linz, Austria.**
- [5] “Verification of Computer Display Pre-compensation for Visual Aberrations in an Artificial Eye,” presented at The Seventh International ACM SIGACCESS Conference on Computers and Accessibility, Baltimore, MD, 2005.
- [6] “Software-Based Compensation of Visual Refractive Errors of Computer Users”, presented at the 42nd Annual Rocky Mountain Bioengineering Symposium, Copper Mountain, CO, 2005.
- [7] “Image Pre-Compensation to Facilitate Computer Access for Users with Refractive Errors,” presented at the 6th International ACM SIGCAPH Conference on Assistive Technologies, Atlanta, GA, 2004.
- [8] “Digital Image Processing for Pre-compensation of High-Order Aberrations of the Human Eye”, presented at the 40th Annual Rocky Mountain Bio-engineering Symposium, Biloxi, MS, 2003.
- [9] “On-screen Pre-deblurring of Images to Enhance the Interaction between Computers and Low-Vision Users”, presented at the Florida Conference for Recent Advances in Robotics, Miami, FL, 2002.

Discussant

Miami Chamber of Commerce – Startups and Education – (2014)

Campus or Departmental Talks

“Customer Development: The Lean Way”, Chaplin School of Hospitality and Tourism Management, (2017)

Research Experience

Data Science and Artificial Intelligence Lab (Associate/Visiting Professor)

Florida International University (2017 – Present)

Reinforcement Learning for Spatial Interfaces - A small project that uses Reinforcement Learning for learning user preferences via Spatial Interface feedback

SPARSE – A Simulation Platform for Autonomous Research and System Evaluation

DeepMaps – Deep Learning for 3D map generation from street level images and video for Self-driving Environment Simulation

Unsupervised Learning for Depth Map and Pose Estimation – Deep Learning system built in TensorFlow to estimate both depth maps and camera pose from stereo video sequences

3D Point-Cloud Segmentation using Deep Learning – Deep Learning system to generate 3D point clouds with accurate scaling with objects such as cars, bicycles, pedestrians, and traffic signs segmented and labeled

VIDAR: Visual Simultaneous Localization and Range Finding – An alternative hardware/software system to traditional LiDAR, generating 3D point clouds from commercial, low-cost cameras mounted in a stereo configuration in 360 degrees

Machine Learning for Predicting Mycotoxin Levels in US Wines – A small project to develop and deploy via API a machine learning system that predicts the mycotoxin levels in US produced wine

Computing Research Lab (Assistant/Associate Professor)

Miami Dade College (2009 – 2014)

SCIDS: Skin Cancer Identification System - Mobile Application to help physicians detect skin cancer using mobile device (iPhone or Android)

Low-cost LiDAR: Low-cost 3D Range Finding for Simultaneous Localization and Mapping in Autonomous Robotics Applications

AudioAid – Mobile Application to enhance ambient audio through Bluetooth headsets for users with auditory impairments

Automated Resistor Decoder - Mobile Application to identify resistor values using a mobile device (iPhone or Android)

SACI: Scaling and Adapting CAHSI Initiatives – Implemented strategies to Recruit, Retain, and Advance Hispanics and Underrepresented Groups in Computing including In-COMMAND (an introduction to computing through mobile application development), PLTL (Peer Led Team Learning), and ARG (Affinity Research Groups)

Digital Signal Processing Lab (Research Assistant)

Florida International University – (2001 – 2007)

Image Pre-compensation for Visually Impaired Computer Users (Dissertation) – Computer application to modify on-screen images according to individual visual aberrations to improve access and interfacing

Electromyogram-based Cursor Control System – An improved hands-free cursor control system suitable for use by individuals with spinal dysfunction or spinal cord injury

Bioinstrumentation System for the Identification of EEG Correlates of Tinnitus – Conceptualization, integration and testing of an experimental instrument, developed to observe Auditory Evoked Potentials (AEPs) in order to identify possible EEG correlates of tinnitus

Real-time DSP Teaching Station – DSP system and software to teach DSP at the undergraduate level for students with little to no experience programming

Current Courses Taught

CAP 5610 - Introduction to Machine Learning - Summer 2019
 COP 4338 - Programming III - Spring 2019
 CAP 5771 – Principles of Data Mining - Spring 2019
 CAP 5610 – Introduction to Machine Learning - Fall 2018
 CAP 5771 – Principles of Data Mining - Fall 2018
 IDH 3034 – Data Analytics I Fall 2018
 CAP 5771 – Principles of Data Mining - Spring 2018
 HFT 4445 – Hospitality Design Thinking and Innovation - Spring 2018
 CAP 5771 – Principles of Data Mining - Fall 2017
 HFT 4292C – Entrepreneurship in H&T - Fall 2017

Previous Courses Taught

EEL 3003 – Electrical Engineering I - FIU
 EEL 3111 – Circuits I - FIU
 EEL 4930 – Development of Dynamic Websites - FIU
 CEN 1990 – Introduction to Computing through Mobile Application Development - MDC
 CET 2123C – Microprocessors - MDC
 COP 1220 – Introduction to C++ - MDC
 CGS2423 – C for Engineers - MDC
 CET1112C – Digital Circuits - MDC
 CET 2113C – Advanced Digital Circuits - MDC
 EET 2351 – Digital and Data Communications - MDC
 ETD 1340 – Computer Aided Drawing/Design - MDC
 EGS 1001C – Introduction to Engineering - MDC
 EET 1082 – Introduction to Electronics - MDC
 EET 2305c – Analog Communications - MDC
 EGS 2311 – Engineering Mechanics: Statics - MDC
 ETI 3704 – Computer Security - MDC
 EET3716C – Advanced Systems Analysis - MDC
 CET4190C – Applied DSP - MDC

Teaching Areas/Courses Prepared to Teach

Artificial Intelligence, Machine Learning, Reinforcement Learning, Deep Learning, Computer Vision, AI Robotics, Data Science, Data Visualization, Data Mining, Distributed, High-performance, and Cloud Computing AI, Entrepreneurship, & Society, Software Engineering, Natural Language Processing

Service to the Profession

Program Committee member for the 5th IEEE International Conference on Data Science and Systems - DSS 2019 (2019)

Grant Reviewer for USDA's NIFA SBIR/STTR Phase II Program – (2018)

FIU Department of Electrical and Computer Engineering Industry Advisory Board, (2011- 2014)

E-Merge Americas Conference Education Subcommittee, (2014-2015)

National Academy Foundation Academy of Engineering STEM Advisory Board, (2011-2015)

FPL Skilled Craft College Pipeline Program Advisory Council, (2011-2014)

CAHSI Advocate Lead, (2009-2010)

Reviewer for the Electrical and Computer Division for 2013 ASEE Annual Conference & Exposition, June 23-26, Atlanta, Georgia, (2013)

Grant Reviewer for NSF's Computing Education for the 21 Century Program – (2012)

Reviewer for the American Society for Engineering Education 2011 Annual Conference & Exposition, June 26-29, Vancouver, BC, Canada, (2011)

Reviewer for the 7th International Conference on Information Technology: New Generations (ITNG 2010), April 12-14, Las Vegas, Nevada, USA, (2010)

Reviewer for the 6th International Conference on Information Technology: New Generations (ITNG 2009), April 27-29, Las Vegas, Nevada, USA, (2009)

Reviewer for the 11th World Multi-Conference on Systemics, Cybernetics and Informatics (WMSCI 2007), July 8-11, Orlando, Florida, USA, (2007)

Reviewer for International Conference on Computing, Communications, and Control Technology, August 14-17, Austin, Texas, USA (2004)

Departmental/University Service

Developed 2 new courses for FIU School of Computing and Information Sciences (2018):

- CAP 5XXX - Machine Learning Techniques & Applications
- CAP 4XXX - Practical Machine Learning

FIU Data Science Project Capstone Mentor - (2018)

FIU VIP CS Senior Project Mentor (2018 - 2019)

FIU MS Data Science Hospitality Track Graduate Program Director – (2017/2018)

Developed 4 new data science courses:

- HMG 6584 - Data Science in Hospitality
- HMG 6585 - Customer Experience Design & Behavior Analysis

- HMG 6455 - Revenue Optimization Science
- HMG 6707 - Travel and Tourism Data Analysis

FIU Chaplin School of Hospitality Search and Screen Committee – (2016/2017)

FIU ASHOKA Changemaker Team – (2016)

eMerge Americas Conference Education Subcommittee – (2015)

MDC ASHOKA Changemaker Team – (2013)

MDC School of Engineering + Technology Screening Committee for 9 new faculty positions (2013) – Committee Chair

MDC Wolfson Campus Chairperson Screening Committee (2012)

MDC North Campus Chairperson Screening Committee (2012)

MDC Homestead Campus Chairperson Screening Committee (2012) - Committee Chair

MDC Grant Compliance Officer Screening Committee (2012)

MDC Faculty Screening and Recruiting Committee (2009)

MDC Grant Writer/Resource Development Associate Screening and Recruiting Committee (2009)

MDC Faculty Screening and Recruiting Committee (2008)

MDC Department Chair Screening and Recruiting Committee (2008)

MDC B.S. Electronics Engineering Technology Development Committee (2007-2008)
Developed 7 new courses for BS. EET:

- EET 4136 – Signals and Systems
- CET4190C – Applied DSP
- CET3126C – Advanced Microprocessors
- ETI4490C – Applied Robotics Lab
- EET3541 – Power Systems I
- EET3716C – Advanced Systems Analysis
- EST3543C – Programmable Logic Controllers

MDC Engineering Discipline Committee – Chair (2008 – 2011)

MDC Kendall Campus Green Team Committee (2007)

Professional Memberships/Affiliations

IEEE – Senior Member

ACM – Member

Tau Beta Pi Engineering Honor Society - Member

Eta Kappa Nu - Member

Order of the Engineer - Member

Related Professional Skills

Product Development: Lean Startup/LaunchPad Model for startup and entrepreneurship via customer development and agile engineering

AI/ML: Deep Learning, SVM, Supervised/Unsupervised/Reinforcement Learning, K-Means Clustering, Bayes Classifiers, Decision Trees, PCA/ICA, Extended Kalman Filtering, Unscented Kalman Filtering, A* Path Planning, Histogram Localization, Particle Filters, PID Control, SLAM, Descriptive Stats, Inferential Stats

Programming Languages: Python, Objective-C, Java, C/C++, PHP, MATLAB, R

Web App Frameworks: Flask, Foundation 4, Twitter Bootstrap

Software Engineering: Agile, XP, SCRUM, BDD & TDD, Unit Testing

SCM and Version Control: Git, Hg, ClearCase, ClearQuest, github.com, bitbucket.org

Tools/Tool Chains: PyTorch, openCV, fftw, TensorFlow, Theano, Keras, Android SDK & NDK, XCODE, Android Studio, PyCharm, RubyMine, AppCode, Bitbucket, JIRA/AGILE, inVision, JDK, gcc, g++, gdb, make, cmake

Operating Systems: OSX, Linux, Unix, Windows

Languages

Proficient in English and Spanish.