

Jose M. Monsalve D.

Contact Information

University of Delaware
Dupont Hall - Lab 335
Newark DE - USA

Mobile: +1 (302)766-5416
Phone: +1 (925)567-3626
Email: josem@udel.edu or josemonsalve2@gmail.com
Website: <http://www.monsalvediaz.com/jose>

Education

- 2014–present **Graduate Studies**, *University of Delaware*, Newark, DE, *Doctoral Degree*.
Electrical and Computer Engineering, concentration in Computer Systems and Networking. (**GPA:3.87**)
Research Group: CAPSL
Advisor: Guang R. Gao
- 2010–2013 **27 Credits towards second Bachelor degree**, *Pontificia Universidad Javeriana*, Bogota D.C. - Colombia, *Computer Science (GPA:3.1)*.
- 2008–2013 **Bachelor of Engineering**, *Pontificia Universidad Javeriana*, Bogota D.C. - Colombia, *Five years program (GPA:3.3)*.
Senior Design project: "Simulated Modular Snake Robot Integrated Framework"
Senior Design Topic: Simulation of Modular Robots Kinematic
Adviser: Dr. Kamilo Melo

Languages

- English: TOEFL Total Score: 96 (Listening: 26 / Reading: 26 / Speaking: 26 / Writing: 22)
Spanish Native speaker

Experience

Research Experience

- 2014 - present **Research Assistant**, *University of Delaware, CAPSL Research Group*, Newark DE, USA, www.capsl.udel.edu.
Projects: 1. Studying selfawareness capabilities on future Exascale Manicore Architectures. 2. Targeting Heterogenous Architectures with a dataflow based parallel runtime system (DARTS). 3. Dataflow based runtime system for the Ephiaphany multicore architecture implementing the Codelets Model.
- Summer 2013 **Internship**, *University of Delaware, CAPSL Research Group*, Newark DE, USA, www.capsl.udel.edu.
- 2012 to 2013 **Research**, *KM-RoBoTa s.a.s., KM-RoBoTa Research Group*, Bogota D.C. - Colombia, www.km-robota.com.
Research on Modular Snake Robot Control and simulation framework.

Professional Experience

- 2010-2012 **Webmaster and Developer**, *Electronics Engineering Department, Pontificia Universidad Javeriana*, Bogota D.C. - Colombia, Under supervision of Prof. Francisco F Viveros Moreno.
Development of an online framework for the Teaching Assitants selection process of the department. Use of PHP, HTML, JQUERY and MYSQL.
- 2011 **Administrative Assitant**, *Electronics Engineering Department, Pontificia Universidad Javeriana*, Bogota D.C. - Colombia, Under supervision of Prof. Juan M. Cruz Bohorquez.
Provide support to the chairman. Collect, organize and analyze student's and employer's information. Running campaigns for different events as well as logistics support
- 2008-2009 **Technical Assistant**, *Electronics Engineering Department, Pontificia Universidad Javeriana*, Bogota D.C. - Colombia, Under supervision of Prof. Francisco F. Viveros Moreno.
Server's administration and configuration. Apache webserver, FTP, SSH and Matlab License servers.

2007 **Technical support and computer repairment**, *Maxcomputer*, Medellin - Colombia, Contact: Sonia Correa (Cr48 10-45 L-384. Tel: +(574) 3123772).
Assemble of computers, hardware and software repairing, sales department and consulting

Publications

- [1] J. Monsalve, A. Landwehr, and M. Taufer, "Dynamic cpu resource allocation in containerized cloud environments," in *Cluster Computing (CLUSTER), 2015 IEEE International Conference*.
 - [2] L. Rozo Duque, J. Monsalve Diaz, and C. Yang, "Improving mp soc reliability through adapting runtime task schedule based on time-correlated fault behavior," in *Design, Automation Test in Europe Conference Exhibition (DATE), 2015*.
 - [3] J. Monsalve, J. Leon, and K. Melo, "Modular snake robot oriented open simulation software," in *Cyber Technology in Automation, Control, and Intelligent Systems (CYBER), 2014 IEEE International Conference*.
 - [4] K. Melo, J. Monsalve, A. Zeo, J. Leon, A. Trujillo, W. Perdomo, D. Roa, and L. Paez, *Modelling and Simulation for Autonomous Systems: First International Workshop, MESAS 2014, Rome, Italy, 2014, Revised Selected Papers*. Springer International Publishing, ch. Integration Scheme for Modular Snake Robot Software Components.
 - [5] K. Melo, J. Leon, J. Monsalve, V. Fernandez, and D. Gonzalez, "Simulation and Control Integrated Framework for Modular Snake Robots Locomotion Research," in *System Integration (SII), 2012 IEEE/SICE*.
- Workshop J. Leon and J. Monsalve and A. DiZeo and L. Paez and K. Melo, "Open Modular Snake Software Architecture", VIII Workshop on Software Development and Integration in Robotics (SDIR VIII), IEEE International Conference on Robotics and Automation (ICRA), 2013..

Awards

- 2012 **First place in the Global Game Jam in Colombia**, *Pontificia Universidad Javeriana*.
Developer of the winning game PAKAL at the GGJ (<http://archive.globalgamejam.org/2012/pakal>)
- 2010-2012 **Expo-Electronica**, *Pontificia Universidad Javeriana*, Electronic design contest.
Electronics Design I: DTMF (Dual-tone multi-frequency) car control. first place public acclaimed, second place best undergrad projects award (*Nov 2010*),
Independent project: Lazlo. Teleoperated robotic plataform. First place in popularity contest (*May 2012*)
- 2008-2009 **3 Times Awarded Academic Excellence**, *Pontificia Universidad Javeriana, Faculty of Engineering*.

Groups

- 2010-2012 **IEEE Javeriana Student Branch**, *Pontificia Universidad Javeriana*, Bogota D.C. - Colombia, Vice-chair of the Student Branch (*2011-2012*).
- 2010-2011 **Code Jamming group**, *Pontificia Universidad Javeriana, Department of Computer Science*, ACM International Collegiate programming contest (ICPC) regionals and other contests (group: Codespark).

Hardware and Software Skills

Robotics	Robot Dynamics and simulation	Actuators	Dynamixel Servomotors and controllers
Computer Programming	C (Advanced), C++ (Intermediate), Java(Beginner), Matlab(Beginner), PHP(Intermediate), HTML (Intermediate), SQL (Beginner), Python (Beginner), L ^A T _E X(Intermediate)	Electronics	VHDL using Synopsys, Computer Networks, IImage Processing Basics, Software and hardware development with MCU, Single core and Parallel Computer Architecture, VHDL, Electronic circuits
Computer Science	Computer Graphics and OpenGL(Beginner), Object Oriented Design, Data Structures, Software Design	Operating Systems	GNU-Linux Native, Microsoft Windows family
Parallel Computing	Multithreading, DARTS (Dataflow based Runtime), OpenMP, MPI, Parallel Computer Architecture, Compilers, Program Execution Models, Memory Models	Development Plataforms	Parallella (16 Cores Ephiphany+Xilinx Zynq SOC), Digilent Zybo Board, Arduino.