

Jaime Leonardo Bobadilla

CURRENT
EMPLOYER
CONTACT
INFORMATION

Florida International University
School of Computing and Information Sciences
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Miami, FL 33199 USA

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APPOINTMENTS

- 8/2013-Present. Assistant Professor in the School of Computing and Information Sciences, Florida International University.
- 1/2008-7/2013. Graduate Student Research Assistant, Department of Computer Science. University of Illinois at Urbana-Champaign.

RESEARCH
INTERESTS

Robotics, Cyber-Physical Systems, Artificial Intelligence.

EDUCATION

University of Illinois at Urbana-Champaign, Urbana, IL

Ph.D., Computer Science, Degree conferral date: August 5, 2013

- Thesis Topic: *Minimalist Multiple-agent Filtering and Guidance*
- Adviser: Steven LaValle
- Area of Study: Robotics, Cyber-Physical Systems

National University of Colombia, Bogota, Colombia

M.S., Statistics, Degree conferral date: March 11, 2008

- Thesis Topic: *Characterizing and Predicting Protein Functional Sites Using Statistical Methods*
- Adviser: Professor Fernando Nino, Professor Edilberto Cepeda
- Area of Study: Computational Biology

B.S., Systems and Computer Engineering, Degree conferral date: April 15, 2005

SELECTED
PUBLICATIONS

- [1] Modeling and Analyzing Occupant Behaviors in Building Energy Analysis Using an Information Space Approach. T. Carmenate, M. M. Rahman, L. Bobadilla, D. Leante, and A. Mostafavi. In *IEEE International Conference on Automation Science and Engineering*, 2015
- [2] Distributed Multi-Robot Area Patrolling in Adversarial Environments T. Alam, M. Edwards, L. Bobadilla, and D. Shell. In *CPS Week: Workshop on Robotic Sensor Networks*, 2015.
- [3] Decoding and Simulating Occupancy Behaviors in Building Energy Performance. T. Carmenate, L. Bobadilla, S. Zanlongo, and A. Mostafavi. In *ASCE International Workshop on Computing Computing in Civil Engineering*, 2015
- [4] Discrete-Event and Motion Planning Methodology for Automated Safety Assessment in Construction Projects. M. M. Rahman, T. Carmenate, L. Bobadilla, S. Zanlongo, and A. Mostafavi. In *IEEE International Conference on Robotics and Automation*, 2015
- [5] Verified Planar Formation Control Algorithms by Composition of Primitives. L. Bobadilla, T. T. Johnson, and A. LaViers. *AIAA: Guidance, Navigation, and Control*, 2015.

- [6] Ex-Ante Assessment of Struck-by Safety Hazards in Construction Projects: A Motion Planning Approach. M. M. Rahman, T. Carmenate, L. Bobadilla, and A. Mostafavi. *IEEE International Conference on Automation Science and Engineering*. 2014
- [7] Predictive Assessment and Proactive Monitoring of Struck-By Safety Hazards in Construction Sites: An Information Space Approach. L. Bobadilla, A. Mostafavi, T. Carmenate, and S. Bista. *15th International Conference on Computing in Civil and Building Engineering*, 2014.
- [8] Stochastic Modeling, Control, and Verification of Wild Bodies. D. Gierl, L. Bobadilla, O. Sanchez, and S. M. LaValle. In *IEEE International Conference on Robotics and Automation*, 2014
- [9] Combinatorial filters: Sensor beams, obstacles, and possible paths. B. Tovar, F. Cohen, L. Bobadilla, J. Czarnowski, and S. M. LaValle. *ACM Transactions on Sensor Networks*, 2014. In Press.
- [10] Controlling wild mobile robots using virtual gates and discrete transitions. L. Bobadilla, F. Martinez, E. Gobst, K. Gossman, and S. M. LaValle. In *American Control Conference*, 2012.
- [11] Minimalist multiple target tracking using directional sensor beams. L. Bobadilla, O. Sanchez, J. Czarnowski, and S. M. LaValle. In *Proceedings IEEE International Conference on Intelligent Robots and Systems*, 2011.
- [12] Controlling wild bodies using linear temporal logic. L. Bobadilla, O. Sanchez, J. Czarnowski, K. Gossman, and S. M. LaValle. In *Proceedings Robotics: Science and Systems*, 2011.
- [13] Manipulating ergodic bodies through gentle guidance. L. Bobadilla, K. Gossman, and S. M. LaValle. In *Proceedings IEEE Conference on Robot Motion and Control*, 2011.
- [14] Toward a Compositional Theory of Sensor-Based Robotic Systems (Extended Abstract). L. Bobadilla, O. Sanchez, S. M. LaValle. In *RSS 2010 Workshop Motion Planning: From Theory to Practice*, 2010
- [15] Gene Selection Based On Category Detection Of Gene Ontology. O. Sanchez, C. Payan, L. Bobadilla, F. Gonzalez, E. Barreto. In *Proceedings of the seventh international conference for the Critical Assessment of Microarray Data Analysis, CAMDA 2007*.
- [16] Characterizing and Predicting Catalytic Residues in Enzyme Active Sites Based on Local Properties: A Machine Learning Approach. L. Bobadilla, F. Nino, E. Cepeda and M. A. Patarroyo. In *IEEE 7th International Symposium on BioInformatics & BioEngineering 2007*.
- [17] A Novel Methodology for Characterizing and Predicting Protein Functional Sites. L. Bobadilla, F. Nino, E. Cepeda and M. A. Patarroyo. In *2007 IEEE International Conference on Bioinformatics and Biomedicine 2007*.
- [18] A Genetic Word Clustering G. Hernandez, L. Bobadilla; O. Sanchez. In *Proceedings of the IEEE Congress on Evolutionary Computation (CEC) 2005*.
- [19] L. Bobadilla, F. Nino, G. Narasimhan Predicting and characterizing metal-binding sites using Support Vector Machines. In *Proceedings of the International Conference on Bioinformatics and Applications 2004*.

AWARDS

University of Illinois at Urbana-Champaign

- Illinois Student Undergraduate Research (ISUR) Graduate Mentor Award 2012-2013

Colombian Ministry of Education

- Top ten student graduate in Computer Engineering in Colombia, ECAES, 2004

National University of Colombia

- Outstanding Graduate Students Scholarship, College of Sciences, 2006–2007
- Best admission score in College of Sciences Master Programs (4.96/5), 2005
- Honorary Enrollment and Scholarship, College of Engineering, 1999, 2001, 2002, 2003

STUDENT ADVISING

Tauhidul Alam Ph.D student in Computer Science. 2013–2014 (FIU).

Md Mahbubur Rahman Ph.D student in Computer Science. 2013–2014 (FIU).

Nestor Hernandez Ph.D student in Computer Science. 2014–2015 (FIU).

Sebastian Zanlongo Ph.D student in Computer Science. 2013–2014 (FIU).

Michael Novo Master student in Computer Science. 2014–2015 (FIU).

Triana Carmenate Master student in Computer Science. 2013–2015 (FIU).

Carlos Dominguez Undergraduate student in Computer Engineering 2014 (FIU).

Virgilio Acuna Undergraduate student in Computer Engineering 2014 (FIU).

Triana Carmenate Undergraduate student in Information Technology. 2013–2014 (FIU).

Diana Leante Undergraduate student in Computer Science. 2013–2014 (FIU).

Martino Benjamin Undergraduate student in Computer Science. 2013–2014 (FIU).

Dan Gierl Undergraduate student in Computer Science. 2013 (UIUC).

Alex DiCarlo Undergraduate student in Computer Science. 2013 (UIUC).

Allen Huang Undergraduate student in Computer Science. 2013 (UIUC).

Katrina Gossman Undergraduate student in Computer Science. 2010 (UIUC).

Justin Czarnowski Master student in Electrical and Computer Engineering. 2010–2011 (UIUC).

Katrina Gossman Undergraduate student in Computer Science. 2010 (UIUC).

Andrew Lycas. Undergraduate student in Computer Science. 2011 (UIUC).

Eric Gobst. Undergraduate student in Mechanical Engineering 2012. (UIUC).

TEACHING EXPERIENCE

Florida International University, Miami, FL

Assistant Professor

Fall 2013-Present

- Spring 2014, Spring 2015 Instructor for COP 4338: Programming III.
- Fall 2013 Instructor for CAP 5610: Machine Learning.
- Fall 2014 Instructor for CIS 6930: Planning Algorithms

University of Illinois at Urbana-Champaign, Urbana, IL

Teaching Assistant

Spring 2013

- Teaching Assistant for CS 431: Embedded Systems.

National University of Colombia, Bogota, Colombia

Instructor

2006 to 2007

- Instructor for Statistics I and II

Incca University of Colombia, Bogota, Colombia

Instructor

2005

- Instructor for Program Verification and Programming Languages

PROFESSIONAL
SERVICE

Referee Service

- *IEEE Transactions on Robotics*
- *Autonomous Robots*
- *International Journal of Robotics Research*
- *IEEE American Control Conference (ACC)*
- *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*
- *International Workshop on the Algorithmic Foundations of Robotics (WAFR)*
- *International Conference on Distributed Computing in Sensor Systems (DCOSS)*
- *International Conference on Robotics and Automation (ICRA)*
- *Mexican International Conference on Artificial Intelligence (MICAI)*

Conference Service

- Organizer of the Symposium: “4th Annual Symposium on Emerging Topics in Control and Modeling: Networked Systems”, Coordinated Science Laboratory at University of Illinois, Urbana-Champaign, October 15-16, 2012.

PROFESSIONAL
MEMBERSHIPS

Institute for Electrical and Electronics Engineers (IEEE), Student Member, 2007–present

- IEEE Robotics and Automation Society (2008–present)

SERVICE

2011-Present Graduate Student Representative in the Computer Science Grad Council for the Artificial Intelligence Area.
2011 Computer Science-Graduate Student Ambassador.
2010 Reviewer of applications for the Computer Science graduate program at UIUC
Present Latino-a Computer Science Club Graduate Representative

LANGUAGES

Spanish (Native), English (Highly Fluent), French (Intermediate), Mandarin Chinese (Beginner)

HARDWARE AND
SOFTWARE SKILLS

Real-time and Embedded Systems:

- Software and hardware development with microcontrollers and FPGA platforms (Atmel ATmega, Arduino, Altera)

Computer Programming:

- C, C++, Java, Python, Lisp, Pascal, R, SQL, MySQL, MATLAB, and others

REFERENCES
AVAILABLE TO
CONTACT

Steven M. LaValle (e-mail: laval@uiuc.edu)

- Professor, Computer Science, University of Illinois at Urbana-Champaign
- ◊ Address: 201 N Goodwin, Urbana, IL 61801
- ◊ Office: 3318
- ◊ Phone: (217) 265-6313
- ★ *Dr. LaValle is my graduate adviser.*

Dylan Shell (e-mail: dshell@cse.tamu.edu)

- Assistant Professor, Computer Science & Engineering, Texas A&M University
- ◊ Address: 301 Harvey R. Bright Building, College Station, TX 77843-3112
- ◊ Office: 333B HRBB

- ◇ Phone: (979) 845-2369
- ★ *Dr. Shell was part of my thesis committee.*

S. S. Iyengar (e-mail: iyengar@cis.fiu.edu)

- Ryder Professor and Director, School of Computing and Information Sciences
Florida International University
- ◇ Address: 11200 S.W, 8th St., Miami, FL 33199
- ◇ Office: ECS - 351
- ◇ Phone: (305) 348-3947
- ★ *Dr. Iyengar is the department head of the School of Computing and Science in Florida International University.*

MORE
INFORMATION

More information and research projects can be found at
<http://users.cis.fiu.edu/jabobadi/>.