

Javier Hernandez Rivera

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Research Interests

Machine Learning, Computer Vision, Data Mining, Human Computer Interaction and Software Development

Education

Massachusetts Institute of Technology, Cambridge, MA, USA

(09/2010 – Present) M.S. Media Arts and Sciences
Expected graduation: May 2012

Carnegie Mellon University, Pittsburgh, PA, USA

(08/2008 – 05/2010) M.S. Robotics and Artificial Intelligence, QPA: 3.92/4
Major in Machine Learning, Pattern Recognition and Computer Vision
Thesis title: *"Supervised Classification with Structured Instance Selection"*

Enginyeria i Arquitectura La Salle, Ramon Llull University, Barcelona, Spain

(09/2004 – 06/2007) M.S. Information Technology, GPA: 8.12/10
Thesis title: *"Learning Kernels for Support Vector Machine classification"*
Evaluation: A with honors (thesis written at Carnegie Mellon University)

(09/2001 – 06/2004) B.S. Computer Systems Engineering, GPA: 8.03/10

Thesis: *"Development of a web application for human resources management of the Research Group in Intelligent Systems"*

Evaluation: A with honors

Work Experience

The Media Lab at Massachusetts Institute of Technology, Cambridge, MA, USA

(09/2010 – Present) Research Assistant under Rosalind Picard in the Affective Computing group at Media Lab

The Robotics Institute at Carnegie Mellon University, Pittsburgh, PA, USA

(09/2008 – 05/2010) Collaborator in the research laboratories Human Sensing and Component Analysis
(www.humansensing.cs.cmu.edu and www.ca.cs.cmu.edu respectively)

(10/2007 – 09/2009) Research Associate under Dr. Fernando De la Torre

Work primarily focused on Machine Learning, Computer Vision and their applications

Some of the projects are:

- Audio analytic system for gunshot detection
- Facial expression recognition with Conditional Random Fields
- Reflective agents with distributed adaptive reasoning
- Forecasting the Anterior Cruciate Ligament rupture patterns

Responsibilities for these projects are:

- Analysis, design and implementation
- Produce efficient and reliable MATLAB, C and C++ code
- Collaboration in teams from two to ninety people
- Interaction with sponsors and non-technical audiences
- Weekly meetings, presentations and deadlines

Other tasks are:

- Co-reviewer AISTAT 2010
- Supervise undergraduate students
- Interview prospective visiting scholars

(09/2006 – 10/2007) Visiting Scholar under Dr. Fernando De la Torre

Research and writing of the M.S. Information Technology thesis

Psychiatry and Epidemiology at University of Pittsburgh School of Medicine, Pittsburgh, PA

(08/2007 – 05/2008) Research Assistant under Dr. Rebecca C. Thurston and Dr. Fernando De la Torre

Scientific breakthrough in the field of physiological measurement of hot flashes in menopausal women using state-of-the-art Machine Learning techniques

Enginyeria i Arquitectura La Salle, Ramon Llull University, Barcelona, Spain

(09/2003 – 07/2004) Collaborator in the Research Group in Intelligent Systems (www.salle.url.edu/GRSI)

Development and writing of the B.S. Computer Systems Engineering thesis

Publications

J. Hernandez, Z. Harchaoui and F. De la Torre. Within-group Sparse Regularization for Supervised Learning. In preparation for submission to Neural Information Processing Systems Foundation (NIPS-2011)

R.Thurston, **J. Hernandez**, J. Del Rio and F. De la Torre. Support Vector Machines to improve physiologic hot flash measures: Applications to the ambulatory setting. Accepted for publication in International Journal of the Society for Psychophysiological Research (SPR-2011)

R.Thurston, K.A. Matthews, **J. Hernandez** and F. De la Torre. Improving the performance of physiologic hot flash measures with Support Vector Machines. Published in International Journal of the Society for Psychophysiological Research (SPR-2009). Invited poster presentation in American Federation for Aging Research annual meeting (AFAR-2009)

Languages

Native Spanish and Catalan

Fluent reading, writing and speaking in English

Computer Skills

Programming Languages: MATLAB, C, C++, PHP, HTML, JavaScript, JAVA, LISP and UML

Tools: UNIX Shell Scripts (sh, bash), MySQL, Microsoft Office and L^AT_EX

Operating Systems: Windows and Linux

Honors and Awards

- Invited to Google GRAD CS Forum 2010
 - Extension of Caja Madrid Scholarship 2010-2011
 - Caja Madrid Scholarship for graduate studies 2009-2010
 - Caja España Scholarship for graduate studies 2009-2010 (renounced)
 - Best poster award: J. Hernandez and T. Simon. Reading Faces with Conditional Random Fields. Carnegie Mellon Spring 2009 Machine Learning Class
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Hobbies

Piano, tennis, travelling, body language and public speaking