

Javier Hernandez Rivera

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US Permanent Resident
Green Card Holder

Research Interests

Affective Computing, Machine Learning, Computer Vision, HCI and Psychophysiology.

Education

Massachusetts Institute of Technology, Cambridge, MA, USA

(09/2010 – Present) Ph.D. Media Arts and Sciences, QGPA: 5/5
Major in Affective Computing

Carnegie Mellon University, Pittsburgh, PA, USA

(08/2008 – 05/2010) M.S. Robotics and Artificial Intelligence, GPA: 3.95/4
Major in Machine Learning and Computer Vision
Thesis: *"Supervised Classification with Structured Instance Selection"*

LaSalle, Ramon Llull University, Barcelona, Spain

(09/2004 – 06/2007) M.S. Information Technology, GPA: 8.12/10
Thesis: *"Learning Kernels for Support Vector Machine classification"*

(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"*

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
Work primarily focused on Affective Computing. Some of the projects involve:

- Automatic stress recognition in real-life settings
- Monitoring the "mood" of a large scale settings through smiles
- Development of tools for behavioral annotation

Panafold, Inc., Palo Alto, CA, USA

(01/2012) Intern in a startup to design and develop cell-phone applications to easily learn new words

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

(09/2008 – 05/2010) Collaborator in the research laboratories Human Sensing and Component Analysis

(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 were:

- Automatic facial expression recognition
- Audio analytic system for gunshot detection
- Reflective agents with distributed adaptive reasoning

Some responsibilities for these projects were:

- Analysis, design and implementation
- Produce efficient and reliable MATLAB and C code
- Interaction with sponsors and non-technical audiences
- Weekly meetings, presentations and deadlines

(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

Physiological measurement of hot flashes in menopausal women using Support Vector Machines

LaSalle, Ramon Llull University, Barcelona, Spain

(09/2003 – 07/2004) Collaborator in the Research Group in Intelligent Systems

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

Teaching

Teaching Assistant of (MAS 622J) Pattern Recognition and Analysis, Fall 2010 with Prof. Rosalind Picard

Publications

J. Hernandez, M. H. Hoque, W. Drevo and R. W. Picard. **Mood Meter: Counting Smiles in the Wild**. Work under review in the ACM conference on Designing Interactive Systems 2012.

J. Hernandez, R. Morris and R. W. Picard. **Call Center Stress Recognition with Person-Specific Models**. In Proceedings of the Affective Computing and Intelligent Interaction 2011.

J. Hernandez, Z. Harchaoui and F. De la Torre. **Instance-Selecting Regularization Penalty for Supervised Image Classification**. Carnegie Mellon University Technical Report CMU-RI-TR-10-42, 2010.

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**. Published in International Journal of the Society for Psychophysiological Research 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 2009. Invited poster in American Federation for Aging Research 2009.

Press

MIT Meter Measures the Mood of Passers-By, by Susannah F. Locke, Popular Science, November 10, 2011.

Eye in the Sky: MIT's Mood Meter is Watching You - Smile!, by Gregory Gomer, BostInnovation, April 25, 2011

Mood Meter Analyzed Happiness of Passersby, by Morgen E. Peck, Innovation on msnbc.com, April 21, 2011.

Mood Meter, a creation of MIT Media Lab, measures facial expressions from a public video feed, The Tech, April 15, 2011.

Languages

Native Spanish and Catalan

Fluent reading, writing and speaking in English

Computer Skills

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

Tools: Android, Bash (Unix shell), MySQL, Processing, L^AT_EX and Microsoft Office

Operating Systems: Windows and Linux

Honors and Awards

- Invited demo to TEDxCambridge (11/2011) and talk to TEDxNewHaven (04/2012)
 - Council for the Arts at MIT (CAMIT) and Festival of Art, Science, and Technology (FAST) 2011 awards
 - Invited to Google GRAD CS Forum 2010
 - Caja Madrid Scholarship for graduate studies 2009-2011
 - 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