

# Juan Fernando Mancilla Caceres

## Curriculum Vitae

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### Summary

My academic and professional work experience encompasses the areas of Artificial Intelligence (AI) and Human-Computer Interaction (HCI). I obtained a Masters degree in Computer Science and I am currently a PhD candidate under the guidance of Prof. Eyal Amir within the Knowledge Representation and Reasoning Group at the University of Illinois at Urbana-Champaign. My research is focused on the creation of tools for collecting relational data from social networks and on the design of algorithms for efficient inference with such data. In particular, I have created games that take advantage of the social structure of a network (e.g., a middle-school classroom) in order to label its nodes (e.g., in order to identify bullies in the classroom). The goal of my research is to bridge the gap between AI and HCI in terms of creating efficient and correct algorithms suitable for solving real-world social problems while using social games and media.

### Education

- **University of Illinois at Urbana-Champaign** Urbana, IL  
*Ph.D. Computer Science (in progress)* 2010 – present  
– Advisor: Eyal Amir
- **University of Illinois at Urbana-Champaign** Urbana, IL  
*M.Sc. Computer Science* 2008 – 2010  
– Advisor: Eyal Amir  
– Thesis: A Turing Game for Commonsense Knowledge Extraction
- **Universidad del Valle de Guatemala** Guatemala City, Guatemala  
*B.S. Electrical Engineering* 2001 – 2006  
– Graduated with Honours (Cum Laude), with 4 Academic Achievements awards  
– Graduation Project: Obstacle avoidance and path finding for a robot using vision algorithms

### Awards, Grants & Honours

Beckman's Institute Cognitive Science / Artificial Intelligence Research Award . . . Spring 2012  
Third Place in the ASPR Lifeline Facebook Challenge (TrueTeamEffort Team) . . . . . Fall 2011  
Most Outstanding Demo Presentation in CS Grad Expo at UIUC . . . . . Spring 2010  
Fulbright Scholarship . . . . . 2008 – 2010  
Cum Laude at Universidad del Valle de Guatemala . . . . . 2006

### Publications (available at <http://magma.cs.illinois.edu/mancill1/>)

- 1) Mancilla-Caceres, J.F., Amir, E., and D. Espelage, *Peer Nominations and its Relation to Interactions in a Computer Game*. (to appear) Proceedings of the 6th International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction, SBP'13 (2013)

- 2) Mancilla-Caceres, J.F., Pu. W, Amir, E., and D. Espelage, *Detecting Bullies with a Computer Game*. Proceedings of the Twenty-Six AAAI Conference on Artificial Intelligence (AAAI'12). 2012
- 3) Mancilla-Caceres, J.F., Pu, W., Amir, E., and D. Espelage, *A Computer-in-the-loop Approach for Detecting Bullies in the Classroom*. Proceedings of the 5th International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP'12). Springer Berlin / Heidelberg. 2012
- 4) Mancilla-Caceres, J.F. and E. Amir, *Evaluating Commonsense Knowledge with a Computer Game*. Proceedings of the 13th IFIP TC13 International Conference Human Computer Interaction - INTERACT 2011, P. Campos, N. Graham, J. Jorge, N. Nunes, P. Palanque and M. Winckler (Eds.), Lecture Notes in Computer Science 6946, pp. 348-355. Springer Berlin / Heidelberg. 2011
- 5) Mancilla-Caceres, J.F. and Amir, E. *A Turing Game for Commonsense Knowledge Extraction*. AAAI Fall Symposium Series, North America, nov. 2010.

## Academic Service

- Program Committee Member:
  - The 2013 International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP 2013).

## Presentations in Workshops, Symposiums, and Invited Talks

- **Identificacion de bullies mediante Juegos de Computadora** Guatemala, Guatemala  
*Universidad del Valle de Guatemala* *August 2012*
- **Identifying Bullies with a Computer Game** Ann Arbor, MI  
*SoCS (Social-Computational Systems) Workshop* *June 2012*
- **Incentives for Game Players to Reveal Information** Minneapolis, MN  
*SoCS (Social-Computational Systems) Workshop* *June 2011*
- **Extracting Commonsense Knowledge using a Turing Game** Urbana, IL  
*CS Spring 2010 Grad Expo at UIUC* *April, 2010*

## Work Experience

- **Standards Research Intern** Samsung STA, Richardson TX  
*HCI and SmartHome Task Group* *Summer 2012*
  - Tasks: Multi-modal interfaces and Smart Home Technologies.
  - Manager: Mark Trayer
- **Teaching Assistant** University of Illinois, Urbana-Champaign IL  
*Introduction to Artificial Intelligence* *Fall 2011*
  - Tasks: Lectures and Homework and Exams design and Grading.
  - Manager: Eyal Amir

- **Research Intern** Nokia Research Center, Cambridge MA  
*Artificial Intelligence* *Summer 2011*
  - Tasks: User Modeling and Recommender Systems.
  - Manager: Mark Adler
- **Research Assistant** University of Illinois, Urbana-Champaign IL  
*Knowledge Representation and Reasoning Group* *May 2010 – present*
  - Manager: Eyal Amir
- **Introduction to Artificial Intelligence** Universidad del Valle de Guatemala  
*Lecturer* *2010*
  - Tasks: Online course on introductory topics on artificial intelligence.
- **Introduction to Statistics** Universidad del Valle de Guatemala  
*Lecturer* *2008*
  - Tasks: Instructor of the introductory course on statistics (probability and Hypothesis testing).
- **Physics Laboratory** Universidad del Valle de Guatemala  
*Lab Coordinator* *2007 – 2008*
  - Tasks: Designed and led weekly labs guiding students through experiments.
- **Physics 1 and Physics 2** Universidad del Valle de Guatemala  
*Lecturer* *2006 – 2008*
  - Tasks: Instructor of the first two introductory courses on classical physics (mechanics, fluids and electromagnetism).

## Relevant Academic Projects

- Visualization of Relational Data (using Processing).
- Facebook Lifeline App (for the ASPR Lifeline Facebook Challenge).
- Face recognition system using SIFT features.
- Comparing algorithms of Feature Selection for text classification
- Combining Commonsense Knowledge Bases

## Relevant Coursework

- At University of Illinois at Urbana-Champaign
  - Culture as Data (Social Computing and Big Data)
  - Human Factors
  - Reasoning in AI
  - Machine Learning
  - Machine Learning in NLP
  - Cognitive Science
  - Logic in AI
  - Planning algorithms

- Algorithms
- Computer Vision
- At Universidad del Valle de Guatemala
  - Computer Graphics
  - Signal Processing
  - Computer Architecture

## Technical Skills

- Probabilistic Reasoning Algorithms (e.g., Graphical Models)
- Machine Learning Algorithms (e.g., Classification, Clustering)
- Programming Languages
  - Python, R, PHP, C/C++, Processing, SQL, Android-SDK

## Other

- AFS Cultural Exchange in Bilzen, Belgium (1 year)
- Languages
  - Spanish (native language)
  - English
  - Dutch (read and spoken)