

Jaime C. Acosta, Ph.D.

Computer Scientist
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Research Interests

Computer security, malware similarity, mobile ad hoc network survivability analysis, covert communication, automated penetration testing, human-computer interaction, spoken dialog systems, adaptable speech interfaces, affective computing

Employment

2009 – present. **U.S. Army Research Laboratory**, Survivability/Lethality Analysis Directorate, Computer Scientist.

2008-2009. **University of Texas at El Paso**, Human Resources Department, Visual Basic .NET Instructor.

2009. **University of Texas at El Paso**, Department of Computer Science, Research Assistant

2004 - 2009. **White Sands Missile Range**, Systems Engineering Directorate, Computer Scientist.

2002-2003. **University of Texas at El Paso**, Department of Computer Science, Research Assistant

Education

Ph.D. in Computer Science. University of Texas at El Paso, 2009. (4.0/4.0 GPA)

M.S. in Computer Science. University of Texas at El Paso, 2007. (4.0/4.0 GPA)

B.S. with Honors, Computer Science. University of Texas at El Paso, 2003. (3.9/4.0 GPA)

Research

COMPETITIVE FUNDING (as PI)

A Novel Covert Communication Technique for Efficient Analysis of Wireless Network Vulnerabilities, U.S. Army Research Laboratory, 2011. \$150,000

Mobile Ad Hoc Networks Tools, Techniques, and Methodologies, U.S. Army Research Laboratory, 2011-2012. \$240,000.

JOURNAL ARTICLES

NBCS: Secure Communication via Distributed Covert Channels in Active Network Traffic.

Jaime C. Acosta, John Medrano

Security and Communication Networks, 2012. (submitted)

Achieving Rapport with Turn-by-Turn, User-Responsive Emotional Coloring.

Jaime C. Acosta, Nigel G. Ward

Speech Communication, 53, pages 1137-1148, 2011.

REFEREED CONFERENCE AND WORKSHOP PAPERS

Survivability Prediction of Ad Hoc Networks Under Attack.

Jaime C. Acosta, Brenda G. Medina

Proceedings of the Military Communications Conference (MILCOM) 2012. (in press)

An Efficient Common Substrings Algorithm for On-the-Fly Behavior-Based Malware Detection and Analysis.

Jaime C. Acosta, Humberto Mendoza, Brenda G. Medina

Proceedings of the Military Communications Conference (MILCOM) 2012. (in press)

Using a Novel Blending Method Over Multiple Network Connections for Secure Communication.

Jaime C. Acosta, John Medrano

Proceedings of the Military Communications Conference (MILCOM) 2011.

Using the Longest Common Substring on Dynamic Traces of Malware to Automatically Identify Common Behaviors.

Jaime C. Acosta

Proceedings of the International Conference on Information Warfare (ICIW) 2011.

Responding to User Emotional State by Adding Emotional Coloring to Utterances.

Jaime C. Acosta, Nigel G. Ward

Proceedings of Interspeech 2009.

Gaining Rapport by Voicing Appropriate Emotional Responses Based on User State.

Jaime C. Acosta

Proceedings of AClI Doctoral Consortium 2009.

Persuasion, Dialog, Emotion and Prosody.

Jaime C. Acosta

Proceedings of MobileHCI Workshop, Measuring Mobile Emotions: Measuring the Impossible? 2009.

Using Emotion to Gain Rapport in a Spoken Dialog System.

Jaime C. Acosta

Proceedings of North American Chapter of the Association for Computational Linguistics (NAACL), Companion Volume: Student Research Workshop and Doctoral Consortium 2009.

Rapport through Dialog.

Jaime C. Acosta

Proceedings of Young Researcher's Roundtable on Spoken Dialog Systems.

Memory Performance Profiling via Sampled Performance Monitor Event Traces.

Diana Villa, Jaime C. Acosta, Patricia Teller, Bret Olszewski, Trevor Morgan

Proceedings of the 5th Los Alamos Computer Science Symposium (LACSI) 2004.

A Framework for Profiling Multiprocessor Memory Performance.

Diana Villa, Jaime C. Acosta, Patricia Teller, Bret Olszewski, Trevor Morgan

Proceedings of the 10th International Conference on Parallel and Distributed Systems (ICPADS) 2004.

Memory Performance Profiling via Sampled Performance Monitor Event Traces.

Diana Villa, Jaime C. Acosta, Trevor Morgan, Patricia Teller, Bret Olszewski

Proceedings of the Austin Center for Advanced Studies (ACAS) Conference 2004.

L2 Miss Profiling on the p690 for a Large-scale Database Application.

Trevor Morgan, Diana Villa, Patricia Teller, Jaime C. Acosta

Proceedings of the Austin Center for Advanced Studies (ACAS) Conference 2003.

REFEREED POSTERS

Attack Survivability Prediction.

Jaime C. Acosta, Brenda G. Medina

IEEE Symposium on Security and Privacy Poster Session 2012.

Using Semantic Snippets of Malware Traces for Efficient Behavioral Analysis.

Jaime C. Acosta, Brenda G. Medina

IEEE Symposium on Security and Privacy Poster Session 2012.

OTHER PRESENTATIONS

Using Emotion to Gain Rapport in a Spoken Dialog System.

Jaime C. Acosta

University of Texas at El Paso Dissertation 2009.

Using Properties of Speech to Generate Persuasive Dialog Systems.

Jaime C. Acosta

University of Texas at El Paso Student Research Expo 2006.

Adding the Ability to Eavesdrop on Opponent Communications to an Online Game.

Jaime C. Acosta

University of Texas at El Paso Master's Thesis 2007.

Eavesdropping on Communication in Games Poster.

Jaime C. Acosta

Computing Alliance of Hispanic-Serving Institutions Poster Session 2006.

TECHNICAL REPORTS

as PI:

From malicious eyes: a method for concise representation of ad hoc networks and efficient attack survivability analysis, 2012.

WIN-T Vulnerability Assessment Report, 2011.

A novel covert communication method for efficient analysis of wireless network vulnerabilities, 2011.

MPM-1000 and HNR Position Paper FY 2010 Anti-Tamper Study, 2010.

An efficient technique for detecting overlap and disjoint behavior among malware, 2011.

not PI:

NIE System Step IV Vulnerability Assessment, 2012.

WIN-T Step IV Vulnerability Assessment, 2011.

AWARDS

Outstanding Dissertation Award for 2009 (UTEP).

ACTEDS (Army Civilian Training, Education and Development System) competitive award for full tuition and one year of paid leave to work full time on Ph.D. research, 2007.

Summer Internship at the University of Pittsburgh LearnLab, 2008.

Graduate School Banner Bearer for the Spring Commencement, 2007.

Service

COMMITTEES

ACM Conference on Computer and Communications Security Program Committee 2013
IEEE Military Communications Conference Session Chair 2012
IEEE Military Communications Conference Program Committee 2011 – 2012
ACM Security and Privacy of Wireless and Mobile Networks Program Committee 2012
IEEE Symposium on Industrial Electronics and Applications Reviewer 2012

SOCIETY MEMBERSHIPS

ACM (Association for Computing Machinery)
and its SIGCHI (Computer-Human Interaction Special Interest Group)
and its SIGSAC (Security, Audit and Control Special Interest Group)

IEEE Professional

ISCA (International Speech Communication Association)
and its SIGDIAL (Special Interest Group on Dialog and Discourse)

HUMAINE (Human-machine Interaction Network on Emotions)

University of Texas at El Paso ISG (Interactive Systems Group)

PROFESSIONAL CERTIFICATIONS

Certified Information Systems Auditor (CISA)
Certified Ethical Hacker (CEH)
Certified Penetration Tester (CPT)
Security+

LANGUAGES

English (native), Spanish

CITIZENSHIP

USA