

Curriculum Vitae

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Xiaojun (Gene) Shan

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Education

University at Buffalo, The State University of New York (SUNY-Buffalo) 08/2008-06/2012 (Expected)
Ph.D. in Industrial and Systems Engineering (concentration in Operations Research)
Dissertation Title: *Game-theoretic Defensive Resource Allocations in the Face of a Partially Strategic Attacker Considering Equity Constraints*
Committee: Jun Zhuang, Ph.D. (Chair), Rajan Batta, Ph.D., Mark Karwan, Ph.D.

University at Buffalo, SUNY 08/2003-08/2008
M.A. in Cognitive Psychology, Sep 2008

Fudan University, Shanghai, China 08/2000-06/2003
B.S. in Biology, June 2003

Shanghai Jiaotong University, Shanghai, China 08/1999-06/2000
Majored in Bio-technology, transferred in 2000 to Fudan University

Graduate Coursework at SUNY-Buffalo

Department of Industrial and Systems Engineering

- Linear Programming; Stochastic Methods; Discrete Optimization; Applied Stochastic Processes; Game theory; Stochastic Dynamic Programming; Simulation and Stochastic Models; Nonlinear Programming

Department of Economics

- Microeconomics; Math for Economists

Department of Biostatistics

- Regression Analysis; Statistical Comparison and Association; Clinical Trials/Design Analysis

Department of Psychology

- Teaching Psychology; Advanced Statistical Methods; Theories of Learning; Memory; Cognitive Processes; Biological Bases of Behavior; Advanced Social Psychology; Animal Behavior; Perception; Speech Perception; Community Psychology; Auditory Perception; Psycholinguistics

Department of Communicative Disorders and Sciences

- Auditory Perception and Cochlear Hearing Loss; Auditory Evoked Potentials; Neural Basis of Communication; Acoustics and Instruments

Professional Experience

Peer-reviewed Journals and Conference Proceedings

Ad-hoc Reviewer

Reliability Engineering & System Safety (2012)

Proceedings of the Information Systems for Crisis Response and Management conference (2012x2)

Research Experience at SUNY-Buffalo

Decision and Risk Analysis Lab 08/2008-present

Supervisor: Jun Zhuang, Ph.D.

- Game-theoretic modeling; Conducting experiments using computer programming (Matlab); Developing graphic user interface (GUI)

Auditory Perception and Action Lab 08/2006-06/2008

Supervisor: Peter Pfordresher, Ph.D.

- Specialized experimental equipment (Motion capture system) usage; Data analysis; Conducting experiments; Computer programming

Neural and Cognitive Plasticity Lab 08/2003-06/2006

Supervisor: Eduardo Mercado III, Ph.D.

- Conducting experiments; Data analysis

Teaching and Mentoring Experience at SUNY-Buffalo

Department of Industrial and Systems Engineering

Teaching Assistant- Applied Stochastic Processes (IE 576, Graduate) Spring 2011

Applied Probability and Statistical Inferences (EAS 305, Undergraduate) Fall 2010, 2011

- Guest lecturing; Holding weekly recitations (Undergraduate) and office hours; Preparing and grading homeworks, exams

Department of Industrial and Systems Engineering

Summer Research Intern Co-advisor for

- Two 12th grade High School Students through 2010, 2011 Buffalo-Area Engineering Awareness for Minorities honors research summer program
- One B.S. Student through summer 2010 Collegiate Science and Technology Entry Program (CSTEP)/State University of New York Louis Stokes Alliance for Minority Participation (SUNY-LSAMP) research program for underrepresented students

Department of Psychology

Teaching Assistant- Advanced Statistical Methods (PSY 607, Graduate) Spring 2006

Scientific Inquiry (PSY 250, Undergraduate) Spring, Fall 2005

Introductory Psychology (PSY 101, Undergraduate) Spring, Fall 2004

- Guest lecturing; Holding office hours; Preparing and grading homeworks, exams

Honors & Awards

- Society for Risk Analysis Travel Award Dec 2011
- Semifinalist of the 2011 INFORMS Charlotte Interactive Session Competition Nov 2011
- Finalist, 2010 INFORMS Decision Analysis Society Student Paper Award Sep 2010
- SUNY-Buffalo, School of Engineering and Applied Sciences Poster Competition Honorable Mention Mar 2010
- Acoustical Society of America Student Travel Award May 2004
- SUNY-Buffalo, Outstanding Graduate Student Fellowship Aug 2003
- Fudan University Scholarship Nov 2001, Nov 2002, June 2003
- Shanghai Jiaotong University Scholarship Aug 1999, Aug 2000

Peer-Reviewed Journal Articles

[P-1] Sun, W., Mercado, E. III, Wang, P., **Shan, X.**, Te-Chung, L. and Salvi, R. J. “Changes in NMDA Receptor Expression in Auditory Cortex after Learning,” *Neuroscience Letter*, 374(1):63-68, 2005.

Journal Article Under Review/Revision

[R-3] **Shan, X.** and J. Zhuang. “Modeling Credible Retaliation in the Smuggling of Nuclear Weapons –A Three-stage Game,” *Decision Analysis*, under review, January 2012.

[R-2] **Shan, X.** and J. Zhuang. “Hybrid Defensive Resource Allocations in the Face of a Partially Strategic Attacker, and Comparison with Fully Endogenous and Exogenous Model,” *European Journal of Operational Research*, under second-round review, September, 2011.

- Finalist, 2010 INFORMS Decision Analysis Society Best Student Paper Award
- Honorable Mention, School of Engineering and Applied Sciences Poster Competition, March 2010

[R-1] **Shan, X.** and J. Zhuang. “Cost of Equity in Defensive Resource Allocations in the Face of a Possibly Non-strategic Attacker,” *Risk Analysis*, under revision, November, 2011.

Journal Article in Preparation

[W-2] **Shan, X.** and J. Zhuang. “Subsidizing to Disrupt a Terrorism Supply Chain –A Four-player Game,” to be submitted to *Journal of the Operational Research Society* by February, 2012.

[W-1] **Shan, X.** and J. Zhuang. “Cumulative defensive resource allocations against a strategic attacker,” to be submitted to *Operations Research* by March 2012.

Conference Presentations/Posters

[C-20] **Shan, X.** and J. Zhuang. “Cost of Equity in Defensive Resource Allocations in the Face of a Possibly Non-strategic Attacker,” *Society for Risk Analysis (SRA) Annual Meeting*, Charleston, SC, December, 2011.

[C-19] **Shan, X.** and J. Zhuang. “Subsidizing to Disrupt a Terrorism Supply Chain –A Four-player Game,” (poster) *SRA Annual Meeting*, Charleston, SC, December, 2011.

[C-18] **Shan, X.** and J. Zhuang. “Cost of Equity in Defensive Resource Allocations in the Face of a Possibly Non-strategic Attacker,” *Decision Sciences Institute (DSI) Annual Meeting*, Boston, MA, November, 2011.

[C-17] **Shan, X.** and J. Zhuang. “Cost of Equity in Defensive Resource Allocations in the Face of a Possibly Non-strategic Attacker,” (poster) *INFORMS Annual Meeting*, Charlotte, NC, November, 2011.

[C-16] **Shan, X.** and J. Zhuang. “Subsidizing to Disrupt a Terrorism Supply Chain –A Four-Player Game,” *INFORMS Annual Meeting*, Charlotte, NC, November, 2011.

[C-15] **Shan, X.** and J. Zhuang. “Equity vs. Efficiency? A Dilemma in Defensive Resource Allocations against a Strategic Attacker,” *INFORMS Annual Meeting*, Charlotte, NC, November, 2011.

[C-14] Zhuang, J., J. Coles, P. Guan, F. He and **X. Shan**, “Strategic Interactions in Disaster Preparedness and Relief in the Face of Man-Made and Natural Disasters,” *36th Annual Natural Hazards Research and Applications Workshop*, Broomfield, CO, July, 2011.

[C-13] **Shan, X.** and J. Zhuang. “Cost of Equity in Defensive Resource Allocations in the Face of a Possibly Non-strategic Attacker,” (poster) *Second New York Conference on Applied Mathematics*, Buffalo, NY, April, 2011.

[C-12] **Shan, X.** and J. Zhuang. “Cost of Equity in Defensive Resource Allocations in the Face of a Possibly Non-strategic Attacker,” (poster) *University at Buffalo's Information and Computing Technology Workshop*, Buffalo, NY, April, 2011.

[C-11] **Shan, X.** and J. Zhuang. “Cost of Equity in Defensive Resource Allocations in the Face of a Possibly Non-strategic Attacker,” (poster) *University at Buffalo Sigma Xi Research Day and Poster Competition*, Buffalo, NY, April, 2011.

[C-10] **Shan, X.** and J. Zhuang. “Cost of Equity in Homeland Security Resource Allocations in the Face of a Possibly Non-strategic Attacker,” (poster, acceptance rate~20%) *Fifth Annual U.S. Department of Homeland Security University Network Summit*, Washington, DC, March, 2011.

- [C-9] **Shan, X.** and J. Zhuang. “Cost of Equity in Homeland Security Resource Allocations in the Face of a Possibly Non-strategic Attacker,” *INFORMS Computing Society Conference*, Monterey, CA, January, 2011.
- [C-8] **Shan, X.** and J. Zhuang. “Cost of Equity in Homeland Security Resource Allocations in the Face of a Possibly Non-strategic Attacker,” (poster) *SRA Annual Meeting*, Salt Lake City, UT, December, 2010.
- [C-7] **Shan, X.** and J. Zhuang. “Game Theory or Not Game Theory? –Robustness of Hybrid Defensive Resource Allocations,” special track of “OR for the Public Interest”, *INFORMS Annual Meeting*, Austin, TX, November, 2010.
- [C-6] **Shan, X.** and J. Zhuang. “Game Theory or Not Game Theory? –Robust Defensive Resource Allocations,” *IIE Annual Conference and Expo 2010*, Cancun, Mexico, June, 2010.
- [C-5] **Shan, X.** and J. Zhuang. “Subsidizing to Disrupt a Terrorism Supply Chain,” *IIE Annual Conference and Expo 2010*, Cancun, Mexico, June, 2010.
- [C-4] **Shan, X.** and J. Zhuang. “Robust Defensive Resource Allocations in the Face of Strategic and Non-strategic Adversaries,” *SRA Annual Meeting*, Baltimore, MD, December, 2009.
- [C-3] **Shan, X.** and J. Zhuang. “Robust Defensive Resource Allocations in the Face of Strategic and Non-strategic Adversaries,” *INFORMS Annual Meeting*, San Diego, CA, October, 2009.
- [C-2] Sun, W., Mercado, E. III, Ping, W., **Shan, X.** and Salvi, R. J. “Changes in NMDA Receptor Expression in Central Auditory System Associated with Auditory Learning,” *Molecular Mechanisms in Central Auditory Function, Plasticity, and Disorder*, 2004.
- [C-1] Mercado, E. III, Ruch, M. C., Liu, H.-M., **Shan, X.**, Sidaras, S. K. and Bogdan, M. L. “Alternation by gerbils and rats during practice,” *Animal Behavior Society*, May, 2004.

Professional Memberships

- Institute for Operations Research and the Management Sciences (INFORMS), since 2008
Societies and Sections:
 - Decision Analysis Society
 - Public Programs Service and Needs Section
- Society for Risk Analysis (SRA), since 2010

Other experience and skills

Language: Chinese (Mandarin), English

Software: Matlab, C language, SAS, SPSS, and R.

References List

Jun Zhuang, Ph.D. (Chair)

Assistant Professor

SUNY-Buffalo

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