

Miguel A. Garces
1617 Manton Street
Philadelphia, PA 19146

Phone: (609)-556-7852 (C)
(484)-412-8557 (W)
E-mail: miguelag@lustickconsulting.com

Work Experience **Lustick Consulting, Inc. – Senior Modeler (May 2008-present)**

- Founded by Dr. Ian Lustick of the University of Pennsylvania, Lustick Consulting aims to use social science theories to inform sophisticated agent-based models to simulate and analyze complex political systems and instability in countries throughout the world.
- Technical lead in development of V-SAFT model suite, including:
 - Creation of the Dynamic Political Hierarchy module used in all LC models
 - Development of new experimental techniques unique to agent-based modeling, including whittling
 - Building of new strategies for the creative use of available data in models
- Responsibilities include but are not limited to:
 - Researching social science theories and the empirical political world in order to build useful frameworks for modeling applications
 - Collecting, organizing, and storing relevant data for target domains
 - Modeling theories and political dynamics by operationalizing them into an agent-based model capable of producing desired dynamics
 - Experimenting with models to build hypotheses and test theories in an iterative fashion
 - Analyzing and visualizing model results that allow for interpretation of complex multi-dimensional time-series data using advanced statistical software
 - Preparing and briefing model results in a format understandable by those not familiar with advanced agent-based modeling, political science, or the target domains
 - Developing budgets and project timelines to effectively leverage capabilities in a resource-constrained environment
 - System administration for data storage, model building/experimentation, and results analysis/visualization
 - Managerial oversight over LC staff and interns
 - Administration and communication with contractors, clients, and partners
 - Writing publishable papers for journals and conferences relevant to political science and agent-based modeling

Leaders Portfolio - Junior Fellow (Nov. 2008-present)

- Responsibilities include updating and managing www.LeadersPortfolio.com to help foster leadership in communities or businesses.

Computer Emergency & Consulting Group, LLC. (2006-present)

Senior Information Technology Advisor (2006-2008)

Internship with Congressman Chris Smith (2005)

Papers

- "Methods in the Madness: Modeling Tactics of Violence in Insurgencies and Rebellions." Prepared for presentation at the International Studies Association Annual Convention, 2016. (with Ian Lustick, Thomas McCauley, and Patrick O'Mahen)
- "Approaching ABM Virtualizations as Complex Games." Prepared for presentation at the American Political Science Association Annual Convention, 2015. (with Dr. Ian S. Lustick, Thomas McCauley, and Patrick O'Mahen)
- "Fragility and Destabilizing Protest: Combining Event and Structural Data for Improved Forecasts." Prepared for presentation at the 2015 Applied Human Factors and Ergonomics Conference. (with Dr. Ian S. Lustick and Dr. Brian P. Levey)
- "Modeling Endogeneity in Civil War: An Agent-based Approach." Prepared for presentation at the International Studies Association Annual Convention, 2015. (with Matthew Reichert and Dr. Ian S. Lustick)
- "Unpacking the Error Term: An Agent-Based Modeling Approach for Locating Causality in War Onsets." Working paper for poster presentation at the American Political Science Association Annual Convention, 2014. (with Dr. Ian S. Lustick and Matthew Reichert)
- "Studying the Edge of the State Space: An Agent-based Modeling Approach to Forecasting Rare Events." Prepared for presentation at the International Studies Association Annual Convention, 2014. (with Matthew Reichert and Dr. Ian S. Lustick)
- "Using Empirical Data to Test Theoretically Grounded Operationalizations of Protest in an Agent-Based Model." Prepared for presentation at the International Studies Association Annual Convention, 2013. (with Brandon Alcorn and Dr. Ian S. Lustick)
- "From Theory to Simulation: The Dynamic Political Hierarchy in Country Virtualization Models." *Journal of Experimental & Theoretical Artificial Intelligence*, Volume 24, Issue 3, Pgs. 279-299, 2012. (with Dr. Ian S. Lustick, Dr. Alicia Ruvinsky and Brandon Alcorn)
- "VirThai: A PS-I Implemented Agent-Based Model of Thailand as a Predictive and Analytic Tool." *Stanford Journal of East Asian Affairs*. Volume 12, Number 1, Pgs. 158-170, 2012. (with Dr. Allen Hicken and Brandon Alcorn)

Education

Graduated from *University of Pennsylvania* in Philadelphia, PA in May 2009 with a Bachelor of Arts in Political Science

- Delta Tau Delta – Vice President (2006-2009)
- Fox Leadership Program/ *Penn Leads the Vote* (2005-2009)
- *Democracy Matters* – Chapter Founder (2007)

Skills

- Proficiency in several programming languages and software including R, Netlogo, Python, C, & Tcl/Tk.
- Some proficiency in a number of databases, web development, GUI development, Latex, and other Linux terminal-based software.
- Advanced proficiency in PS-I modeling language used for all Lustick Consulting models which supports development of models and advanced experimentation techniques.
- Strong familiarity with Repast, ArcGIS, QGIS, and other software used for modeling and analysis.

References Available Upon Request