

AARON L BRAMSON

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EDUCATION

- Ph.D. Joint Degree with Political Science and Philosophy** Sept 2004 to Dec 2011
University of Michigan, Ann Arbor, MI
- Certificate in Complex Systems and Agent-Based Computational Models** Dec 2008
University of Michigan, Ann Arbor, MI
- Graduate Workshop in Computational Social Sciences** July 2006
Santa Fe Institute, Santa Fe, NM
- Complex Systems Summer School** June 2005
Santa Fe Institute, Santa Fe, NM
- M.S. in Mathematics** Sept 2002 to May 2004
Northeastern University, Boston, MA
- B.S. in Economics** August 1995 to August 1999
University of Florida, Gainesville, FL
- B.A. in Philosophy** August 1995 to August 1999
University of Florida, Gainesville, FL

EMPLOYMENT AND CONSULTING EXPERIENCE

- Modeling Information Transfer across Social Networks** July 2009 to September 2010
Digital Consulting Service, Newbury Park, CA
Creating a simulation experiment environment for the United States Military Academy at West Point for message signaling across heterogeneous social networks with various properties.
- Metrics and Measures Development, Multi-Int Fusion** May 2007 to August 2010
Lockheed Martin Corporation, San Diego, CA
Developed multi-int fusion methodologies for AFUO program and participated in technology development for IRAD and new contract proposals for cultural fusion, social network analysis, and incorporating complex systems methods. **Top Secret** security clearance issued.
- Network Analysis and Software Development** September 2006 to April 2007
Research Foundation at CUNY, New York, NY
Generated network visualization and analysis toolkit for global terrorist activity research as an independent contractor. Model accepts relational database and returns graphical and mathematical representations of activity.
- Summer Research Assistant** June 2003 to August 2003
Air Force Research Laboratory (AFRL), Rome, NY
Analyzed a high-level fusion project then under development and provided metrics to measure and improve system performance. Recommended methods to improve robustness, reliability, and quality assurance capabilities of the output. Produced technical paper presented at S.P.I.E. 2004 (see below).
- Research Consultant** February 2003 to September 2004
L-3 Communications, Inc. Rome, NY
Performed independent research to analyze alternative approaches to providing a decision support tool for solving communication inter-operability issues. Provided a white paper on related AI technologies.
- Research Associate** February 2002 to August 2002
Valkyrie Technologies, Inc. West Melbourne, FL
Investigated advanced techniques for decision aiding with incomplete and uncertain data. Evaluated evidential reasoning methods including Bayesian and Dempster-Shafer techniques, fuzzy logic and neural networks. Performed independent research and provided monthly reports.

ACADEMIC EXPERIENCE

- Post-Doctoral Research Fellow** February 2010 to July 2011
Rotman School, University of Toronto, Toronto, ON
Working with Mike Ryall to develop a modeling course for first-year MBA students that includes causal (Bayesian networks), agent-based, statistical, and integrated models. Conducted research on applications of agent-based and dynamic network models for strategy problems.
- NEH Institute for Advanced Topics in the Digital Humanities** June 2011
University of Toronto, Toronto, ON
Mentor for 3-week workshop at UNC Charlotte to add simulation techniques to the repertoire of methods already employed by humanists. Included teaching technique, coordinating and evaluating participants' projects, and planning future development.
- Modeling and Strategy Course Development** August 2009 to January 2010
University of Toronto, Toronto, ON
Developing course material and educational models for an MBA core course. Models include decision problems, game theory, agent-based modeling, and evolutionary programming.
- ICPSR Instructor** July-August 2005, 2006, 2007, 2008, and 2009
University of Michigan, Ann Arbor, MI
Developed and taught a four-week workshop on building computational models for complex systems for the Inter-university Consortium for Political and Social Research (ICPSR) Summer Program in Quantitative Methods.
- Computational Modeling Workshop Instructor** January 2007 to March 2007
Oberlin College, Oberlin, OH
Presented a series of talks and helped students develop agent-based computational models for Richard Salter's computational modeling course.

PUBLICATIONS

- Emergent cultural signatures and persistent diversity** November 2010
Rationality and Society, Volume 22(4) w/ Bednar, Jones-Rooy and Page
- Formal Measures of Dynamical Properties: Robustness** November 2010
Symposia Technical Report Series of the AAAI
- Formal Measures of Dynamical Properties: Tipping Points** November 2009
Symposia Technical Report Series of the AAAI
- Evolution of Cooperation and Coordination via Preferential Detachment** September 2009
Proceedings of the IEEE TIC-STH Symposium on Complex Systems
- Methodology for Building Confidence Measures** April 2004
Proceedings of the 2004 S.P.I.E. Defense and Security Conference

TECHNICAL AND SPECIALIZED SKILLS

Research Tools: Mathematica, Java, NetLogo, L^AT_EX
Design Tools: HTML, CSS, JavaScript, and Photoshop

LANGUAGE ABILITIES

Advanced Japanese, basic Spanish and German

MORE INFORMATION

For more details on research, to find research papers, and to see presentation materials visit www.bramson.net and www.complexityblog.com