

Bryan Wilder

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Education

PhD Student in Computer Science 2015-Present
University of Southern California
Adviser: Milind Tambe

B.S. Computer Science (*summa cum laude*) 2011-2015
Minor in Mathematics
University of Central Florida
GPA: 4.0
Thesis: Sparsification of Social Networks Using Random Walks. Advised by Gita Sukthankar.
Outstanding Thesis Award for Science and Engineering.

Awards

2017 Nominated for AAMAS Best Paper Award
2016 AAAI Best Video Award
2016 National Science Foundation Graduate Research Fellowship
2015 University of Southern California Annenberg Fellowship
2011-2015 University of Central Florida President's Honor Roll
2011-2015 University of Central Florida Provost Scholar
2014 Boeing Scholarship

Rigorously reviewed conference publications

Bryan Wilder, Sze-Chuan Suen, and Milind Tambe. Preventing infectious disease in dynamic populations under uncertainty. AAAI Conference on Artificial Intelligence (AAAI). 2018.

Bryan Wilder. Equilibrium computation and robust optimization in zero sum games with submodular structure. AAAI Conference on Artificial Intelligence (AAAI). 2018.

Bryan Wilder. Risk-sensitive submodular optimization. AAAI Conference on Artificial Intelligence (AAAI). 2018.

Bryan Wilder, Nicole Immorlica, Eric Rice, and Milind Tambe. Maximizing influence in an unknown social network. AAAI Conference on Artificial Intelligence (AAAI). 2018.

Bryan Wilder, Amulya Yadav, Nicole Immorlica, Eric Rice and Milind Tambe. Uncharted but not Uninfluenced: Influence Maximization with an Uncertain Network. International Conference on Autonomous Agents and Multiagent Systems (AAMAS). 2017.

Amulya Yadav, **Bryan Wilder**, Robin Petering, Eric Rice and Milind Tambe. Influence Maximization in the Field: The Arduous Journey from Emerging to Deployed Application. International Conference on Autonomous Agents and Multiagent Systems (AAMAS). 2017. **Nominated for best paper award.**

Shahrzad Gholami, **Bryan Wilder**, Matthew Brown, Arunesh Sinha, Dana Thomas, Nicole Sintov, Milind Tambe. Divide to Defend: Collusive Security Games. *Conference on Decision and Game Theory for Security (GameSec)*. 2016.

Shahrzad Gholami, **Bryan Wilder**, Matthew Brown, Arunesh Sinha, Dana Thomas, Nicole Sintov, Milind Tambe. Divide to Conquer: Toward Addressing Collusion among Human Adversaries in Security Games (short paper). *European Conference on Artificial Intelligence (ECAI)*. 2016.

Bryan Wilder and Gita Sukthankar. Sparsification of Social Networks Using Random Walks. *International Conference on Social Computation (SocialCom)*. 2015

Journal publications

Anne Kandler, **Bryan Wilder**, Laura Fortunato. Inferring individual-level processes from population-level patterns in cultural evolution. *Royal Society Open Science*. 2017.

Bryan Wilder and Anne Kandler. Inference of Transmission Modes Based on Incomplete Information. *Human Biology*. 2015.

Bryan Wilder and Kenneth O. Stanley. Reconciling Explanations for the Evolution of Evolvability. *Adaptive Behavior*. 2015.

Bryan Wilder and Kenneth O. Stanley. Altruists Proliferate Even When at a Selective Disadvantage Within their Own Niche. *PLOS One*. 2015.

Workshop publications

Bryan Wilder, Amulya Yadav, Nicole Immorlica, Eric Rice and Milind Tambe. Robust, dynamic influence maximization. International Workshop on Optimization in Multiagent Systems (OptMAS). 2017

Shahrzad Gholami, **Bryan Wilder**, Matthew Brown, Arunesh Sinha, Nicole Sintov, Milind Tambe. A Game Theoretic Approach on Addressing Cooperation among Adversaries in Security Games. *Security and Multi-agent Systems Workshop at AAMAS 2016*.

Videos

Amulya Yadav, Eric Rice, Robin Petering, Jaih Craddock, **Bryan Wilder**, Milind Tambe. HEALER: Using AI to Raise HIV Awareness among Homeless Youth. AAAI Conference on Artificial Intelligence (AAAI). 2016. **Best video award**.

Grant proposals assisted with

Playing Security Games With No Time for Mapping Full Networks: Maximizing Influence in Uncharted Social Networks, 2/1/2017-9/1/2017, approx. \$500,000; Army Research Office .

Spatio-Temporal Game Theory and Real-Time Machine Learning for Adversarial Groups in the Wild, 01/01/2017-12/31/2019, approx. \$1,250,000; Office of the Secretary of Defense MINERVA Research Initiative.

Research experience

<i>Teamcore Lab</i> , University of Southern California Develop algorithms for analyzing and intervening in social networks, and for planning defender responses in security games.	Fall 2015 – Present
<i>Research Experience for Undergraduates</i> , Santa Fe Institute Advised by Anne Kandler and Laura Fortunato. Developed statistical methods to infer the underlying mechanisms behind cultural evolution.	Summers 2013 – 2015
<i>Honors in the Major Undergraduate Thesis</i> , University of Central Florida. Advised by Gita Sukthankar. Designed an algorithm to sparsify social networks, with applications to large-scale influence maximization.	Fall 2014 – Spring 2015
<i>Evolutionary Complexity Lab</i> , University of Central Florida Analyzed novel hypothesis for the evolution of altruism with analytic mathematical model and computational simulation.	Fall 2013 – Spring 2014
<i>Intelligent Systems Lab</i> , University of Central Florida Designed episodic memory for a conversational avatar, leading to an exhibit developed for Orlando Science Center.	Fall 2012 – Spring 2013

Students Mentored

Noah Foreman (B.S. student, USC). Summer 2017. Project: simulating models of influence diffusion on social networks and examining impact of model misspecification on influence maximization algorithms.

Professional Service

Organizing Committee: AAAI 2017 Spring Symposium on AI for Social Good (AISOC).

Reviewer: IJCAI 2017, 2016, GameSec 2016, NIPS 2016

Teaching Experience

Graduate Teaching Assistant, University of Southern California. CSCI 104: Object Oriented Programming and Data Structures. Summer 2017

Undergraduate Teaching Assistant, University of Central Florida
CAP 4053: Artificial Intelligence for Game Programming Spring 2014

General audience publications

Resident Staff Writer, The Undergraduate Times Fall 2014 – Spring 2015
Wrote monthly articles on current scientific research for general student audience. Site averages 5,000 visitors daily.