

Camelia Simoiu

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Education

Stanford University, USA PhD candidate, Computational Social Science	2014-present
University of Amsterdam, Netherlands MS Artificial Intelligence	2013-2014
University of Toronto, Canada BS in Applied Statistics and Economics with Highest Honors	2005-2009

Relevant Courses (taken at Stanford University)

Machine learning (CS229), Statistical modeling (STATS305), Mining massive datasets Hadoop lab (CS246H), Social Networks (CS224W), Bayesian statistics (POLISCI 450D), Probabilistic Graphical Models (CS228).

Employment

- Researcher, **Stanford University**, Stanford, CA 2014-present
- Various projects under supervision of Professor Sharad Goel (complete list: <https://web.stanford.edu/~csimoiu/>)
 - Develop a bayesian hierarchical latent model model to identify bias in decision making.
 - Design and analyze results from a large-scale online experiment to study the effect of social influence on collective intelligence. Displaying the most popular response to users led to the worst crowd performance.
 - National analysis of racial disparities in police interactions with the public in over 60 million traffic stops between 2011 and 2015. Data, code, and tutorials available at: <https://openpolicing.stanford.edu/>
- Researcher, **Symantec**, Mountain View, CA Summer, 2017
- Develop an early warning system of user susceptibility to malware infection and attack, based on web browsing behavior and telemetry logs for over 10 million users.
 - Identify browsing profiles of at-risk individuals via various online machine-learning algorithms including neural networks.
- Fellow, **Eric Schmidt Data Science for Social Good**, University of Chicago, IL Summer, 2013
- Develop a supervised machine-learning approach to quantify energy savings of building retrofits.
 - Profile usage, predict peaks, and detect anomalous patterns for energy consumption from three years of hourly energy usage data from over 6,000 commercial buildings; work presented at KDD.
 - One of 36 fellows chosen from 500+ applicants for this three-month fellowship.
- Researcher, **Massachusetts Institute of Technology (MIT)**, Cambridge, MA Jan – June, 2013
- Study the effects of network structure on social influence and complex contagion.
 - Identify factors that encourage effective peer-to-peer propagation of behaviour using time-dependent Cox survival models, on 1.6 million users across 2,000 large-scale corporate social networks.
 - Work featured in *Pentland, Alex. Social Physics: How Good Ideas Spread-The Lessons from a New Science. Penguin, 2014.*
- Actuarial Consulting Analyst, **Mercer**, Toronto, ON 2009 – 2012
- Develop quantitative statistical and stochastic models to evaluate the financial risk exposure of health and benefit plans for companies across the financial, industrial, and energy sectors.
 - Qualified as an Associate of Society of Acturaries (ASA) after passing 8 exams on probability, statistics, and financial mathematics.

Teaching & Leadership

- Co-Instructor, “**Rethinking cybersecurity: Behavioral and economic perspectives**” Winter 2018
- Initiated and co-led a new seminar course focused on behavioral cyber security at Stanford in collaboration with Professor Dan Boneh and the Stanford Cyber Initiative
- Teaching Assistant
- **Applied Statistics** (MS&E125), TA for Sharad Goel Winter 2018
 - **Social Networks: Theory and Methods** (MS&E382), TA for Noshir Contractor Winter 2016

Publications

C. Simoiu, S. Corbett-Davies, S. Goel, “The Problem of Infra-marginality in Outcome Tests for Discrimination”, *Annals of Applied Statistics*, Vol 11-3, 2017.
[nominated for ASA Outstanding Application award, voted most interesting paper on arXiv, 08/2016]

Crowd Research: Open and Scalable University Laboratories. UIST 2017.
R. Vaish, S. Gaikwad, G. Kovacs, **C. Simoiu**, M. Bernstein, et. al. [Best Paper Honorable Mention Award]

Investigating the Wisdom of the Crowds at Scale, ACM UIST Symposium, 2015.
C. Simoiu, Rajan Vajan, Sharad Goel et. al., poster with oral presentation

Understanding and Improving Energy Consumption in Commercial Buildings, KDD, 2013.
Scott Alfeld, **C. Simoiu**, Andrea Fernandez-Conde

Under review / working papers

C. Simoiu, C. Gates, J. Bonneau, S. Goel, “I was told to buy a software or lose my computer. I ignored it: a study of ransomware” [under review]

E. Pierson, **C. Simoiu**, J. Overgoor, S. Corbett-Davies, V. Ramachandran, C. Phillips, S. Goel, “A large-scale analysis of racial disparities in police stops across the United States” [under review]

C. Simoiu, C. Sumanth, A. Myore, S. Goel, “The effects of social influence on collective intelligence” [under review]

Scholarships and awards

Cyber Security Scholarship, ISAC	2018
StanCon Scholarship, Stan Development Team	2017
ACCEL Fellowship, Stanford University	2016-07
Winner of the Knight News Challenge Fellowship Challenge	2015
RSA Security Scholar	2015
Stanford Graduate School of Engineering Fellowship	2014
Data Science for Social Good Fellowship, University of Chicago	2013
International Exchange Bursary, University of Toronto	2007
Blue-Lands Scholarship, University of Toronto	2006
Victoria College Regents Scholarship, University of Toronto	2006
School Champion, Cayley Contest, Canadian Mathematics Competition	2003
Placed in top 5% nationally on Pascal & Fermat Contests, Canadian Mathematics Competition	2002-04

Personal

Fluent in English and Romanian (native). Conversant in French.
Road biking, diving, mountaineering. Cello player (beginner).