

Daniel Tamor Liu Citron

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Education

Cornell University	Ithaca, NY
<i>Ph.D. Theoretical Physics; Experimental Physics Minor</i>	<i>2011 – Present</i>
<i>M.S. Physics</i>	<i>2014</i>
<i>NSF Graduate Research Fellowship</i>	<i>2012</i>
University of Chicago	Chicago, IL
<i>B.A. Physics with Honors</i>	<i>2005 – 2009</i>

Research Interests

- Modeling infectious disease dynamics
- Stochastic modeling
- Collaboration network assembly
- Social network analysis

Technical Skills

<i>Proficient in:</i>	Python, Mathematica, SQL, Fortran, HTML, Unix, LaTeX
<i>Working knowledge of:</i>	Git, Julia, Matlab, Octave, Adobe Lucene, IDL

Data Science Projects

Network Assembly in Scientific Collaboration Networks	Ithaca, NY
<i>Graduate Research Assistant, Cornell University</i>	<i>Winter 2013– Present</i>
<i>Complex Systems Summer School, Santa Fe Institute</i>	<i>Winter 2016</i>
<ul style="list-style-type: none">– Collaborated with interdisciplinary group to analyze dynamics of social networks– Created Python tools for studying development and growth of collaboration networks– Used topic modeling software to detect subfields of articles in a large scientific corpus	
Measuring Patterns in Text Reuse in Scholarly Corpus	Ithaca, NY
<i>Graduate Research Assistant, Cornell University</i>	<i>Summer – Fall 2012</i>
<ul style="list-style-type: none">– Measured rate and distribution of text reuse in online database of scientific articles (arXiv)– Converted raw data into social network dataset for easy visualization and exploration– Created Python tools for measuring properties of social network dataset	

Modeling Projects

Contact Network Heterogeneity and Persistence of Disease	Ithaca, NY
<i>Graduate Research Assistant, Cornell University</i>	<i>Winter 2014 – Present</i>
<ul style="list-style-type: none">– Derived and numerically solved equations describing disease model on annealed networks– Utilized computer simulations to verify and augment the numerical results– Explored how contact network heterogeneity increases disease persistence	
Infectious Disease Dynamics	Ithaca, NY
<i>Graduate Research Assistant, Cornell University</i>	<i>Summer 2013 – Present</i>
<ul style="list-style-type: none">– Programmed a variety of software tools for simulating disease dynamics in Python and Julia	

Software and Hardware Development

Synchrotron X-Ray Tomography Experiment

Argonne National Lab, Chicago IL

Research Support Staff, GSECARS

Spring 2010 – Summer 2011

- Improved synchrotron X-ray tomography experiment at Advanced Photon Source
- Designed and built optical mount for new tomography experiment apparatus

Software Testing of Implantable Medical Device

Yehud, Israel

Biomedical Engineering Intern, Biocontrol Medical

Fall 2009 – Spring 2010

- Designed firmware test protocol for electronic wand used to communicate with the device
- Performed tests on software for programming the device

Publications

- Daniel T. Citron, Paul Ginsparg. “Patterns of Text Reuse in a Scientific Corpus.” PNAS 2014; published ahead of print December 8, 2014, DOI:10.1073/pnas.1415135111
- Mark L. Rivers, Daniel T. Citron, Yanbin Wang. “Recent Developments in Computed Tomography at GSECARS,” Proc. SPIE 7804, 780409 (2010), DOI:10.1117/12.861393
- X. Cheng, G. Varas, D. Citron, H. Jaeger, and S. Nagel. “Collective Behavior in a Granular Jet: Emergence of a Liquid with Zero Surface Tension,” Physical Review Letters, Vol. 99, Nov. 2007

Conferences and Workshops

Network Assembly in Scientific Collaboration Networks

Northwestern U.

International Conference on Computational Social Science

June, 2016

Network Analysis of ArXiv

Santa Fe Institute

SFI Complex Systems Summer School 2015

June, 2015

Moment Closure Analysis of SIRS Disease Model on Heterogeneous Networks

APS March Meeting 2015

March, 2015

Accounting for Fluctuations in Stochastic SIRS Model on Networks

U. of Pittsburgh

International Workshop on Advances in Discrete Networks

December, 2014

Teaching and Outreach

Instructor

Cornell University

Physics GRE Preparation Short Course

Spring 2013, 2014, 2015, 2016

- Designed syllabus and lecture slides for 6-week course
- Delivered lectures and led discussions to review undergraduate physics

Teaching Assistant

Cornell University

Electricity and Magnetism

Spring 2012, 2016

Mechanics and Special Relativity

Fall 2011, 2015

Destination Imagination

Central New York

Board Member and Volunteer

Spring 2015 – Present

- Organized and supervised two large events with 50-100 K12 students
- Supervised educational team-building exercises with groups of 5-10 K12 students