

EXPERIENCE

University of Chicago

2014–Now

Post-doctoral Researcher, Center for Data Science and Public Policy

- Policy analysis and predictive modeling of lead poisoning for the Chicago Department of Public Health
- Predictive modeling of hazardous waste violations for the U.S. Environmental Protection Agency and New York State Department of Environmental Conservation

Eric and Wendy Schmidt Data Science for Social Good

Summer 2016

Technical Mentor

- Mentored graduate students in analysis and development of data science solutions for public policy problems.

University of Chicago

Winter 2016

Lecturer, Harris School of Public Policy

- Computation for Public Policy graduate course

Open Energy Efficiency Meter (openeemeter.org)

2015

Data Scientist

Statistical learning of residential energy consumption baselining and forecasting.

Eric and Wendy Schmidt Data Science for Social Good

Summer 2014

Summer Fellow

- Modeling maternal health outcomes for the government of Mexico.
- Electricity load disaggregation for Pecan Street Research Institute.

Oroeco (oroeco.com)

2014

Scientific Software Engineer

Collecting data and building carbon footprint models and visualizations.

Northwestern University

2008–2013

Teaching Assistant: Probability & Stochastic Processes, Mechanics, Real Analysis

EDUCATION

Northwestern University

2009–2014

Ph.D. Mathematics

Dissertation: Euclidean Embeddings and Riemannian Bergman Metrics

Advisor: Steve Zelditch

Columbia University

2005–2009

B.A. Mathematics with Honors, Columbia College Class of 2009

Thesis: An Application of Poincaré's Fundamental Polyhedron Theorem

PUBLICATIONS

Predictive Modeling for Public Health: Childhood Lead Poisoning

21st ACM SIGKDD Proceedings

Why Its So Hard to Find Out Where the Candidates Stand

Washington Monthly, November 2016

Euclidean Embeddings and Riemannian Bergman Metrics

The Journal of Geometric Analysis, January 2016, Volume 26, Issue 1, pp 499-528

An Asymptotic for the Representation of Integers as Sums of Triangular Numbers

Involve 1 (2008), no. 1, p. 111-121. (with A. Atanasov, R. Bellovin, I. Loughman-Pawelko and L. Peskin)

INVITED TALKS

American Public Health Association 2015 Annual Meeting

Understanding Aspects of Predictive Analytics in Advancing Public Health Session

Bloomberg Data for Good Exchange 2015

Predictive Modeling for Public Health: Childhood Lead Poisoning

GRANTS

Collecting and Sharing Information across Sectors in Chicago and Illinois to Identify Children at Risk for Lead Poisoning.

Robert Wood Johnson Foundation. With Rayid Ghani, Raed Mansour, Matthew Roberts, John DiCello, Tom Schenk, Illinois Department of Human Services, and Alliance of Chicago. Grant ID 73354. \$200,000.

VOLUNTEER

Habitat 2030

Chicago-area ecological habitat restoration and stewardship.

2013–Now

Open Source Ecology

Building and documenting an open source compressed earth brick press and sustainable, modular, low-cost house.

2011–Now

SKILLS

Python (numpy, scipy, pandas, sklearn, matplotlib)
SQL (PostgreSQL), Java, JavaScript (D3.js), Ruby (on Rails)
Geospatial (PostGIS, GDAL, OpenStreetMap, Mapnik, QGIS, Leaflet)
git, bash, GNU/Linux, L^AT_EX
Probability, Causal Inference, Differential Geometry, Partial Differential Equations
Fluent in Russian

REFERENCES

- Matt Gee, mattgee@gmail.com
Research Fellow, Urban Center for Computation and Data
- Emile Jorgensen, Emile.Jorgensen@cityofchicago.org
Epidemiologist, Chicago Department of Public Health
- Rayid Ghani, rayid@uchicago.edu
Research Director, Computation Institute, University of Chicago
- Steve Zelditch, s-zelditch@northwestern.edu
Wayne and Elizabeth Jones Professor of Mathematics, Northwestern University