Eric Potash

eric@k2co3.net / k2co3.net / github.com/potash

Experience

University of Illinois Urbana-Champaign 2020–Now
Research Scientist, Institute of Sustainability, Energy, and Environment

University of Chicago 2017–2020
Postdoctoral Scholar (Advisor: Dan Black), Harris School of Public Policy

Education

Northwestern University 2009–2014
Ph.D. Mathematics (Advisor: Steve Zelditch)
Dissertation: Euclidean Embeddings and Riemannian Bergman Metrics

Columbia University 2005–2009
B.A. Mathematics with Honors, Columbia College
Thesis: An Application of Poincaré's Fundamental Polyhedron Theorem

Publications

Multi-site evaluation of stratified and balanced sampling of soil organic carbon stocks in agricultural fields
Geoderma 438, 116587 (2023).
E. Potash, K. Guan, A. Margenot, DK Lee, A. Boe, M. Douglass, E. Heaton, C. Jang, V. Jin, N. Li, R. Mitchell, N. Namoi, M. Schmer, S. Wang, C. Zumpf

How to estimate soil organic carbon stocks of agricultural fields? Perspectives using ex-ante evaluation
Geoderma 411, 115693 (2022).
E. Potash, K. Guan, A. Margenot, DK Lee, E. DeLucia, S. Wang, C. Jang

A Bayesian Approach to Recreational Water Quality Model Validation and Comparison in the Presence of Measurement Error
Water Resources Research, e2021WR031115 (2022).
E. Potash and S. Steinschneider

Algorithmic Fairness: Choices, Assumptions, and Definitions
Annual Reviews of Statistics 8, 2021.
S. Mitchell, **E. Potash**, S. Barocas, A. D'Amour, K. Lum

Validation of a Machine Learning Model to Predict Childhood Lead Poisoning
JAMA Network Open 3 (9), e2012734-e2012734
E. Potash, R. Ghani, J. Walsh, E. Jorgensen, C. Lohff, N. Prachand, R. Mansour

Randomization Bias in Field Trials to Evaluate Targeting Methods
Economics Letters, Volume 167, June 2018, Pages 131–135.
E. Potash

Predictive Modeling for Public Health: Childhood Lead Poisoning
21st ACM SIGKDD Proceedings
E. Potash, J. Brew, A. Loewi, S. Majumdar, A. Reece, J. Walsh, E. Rozier, E. Jorgensen, R. Mansour, R. Ghani

Euclidean Embeddings and Riemannian Bergman Metrics
The Journal of Geometric Analysis, January 2016, Volume 26, Issue 1, pp 499-528
E. Potash

Other Writing

Why It's So Hard to Find Out Where the Candidates Stand
Washington Monthly, November 2016

Invited Talks

Environmental Policy Institute at Chicago (EPIC) Workshop
Can Health Departments Prevent Childhood Lead Poisoning?, 5/15/2018

EPA Research and Development "Science at Work" Seminar
Proactive Lead Investigations, 4/12/2017

City Bureau Public Forum
Lead Poisoning Panel Speaker, 3/13/2017

American Public Health Association Annual Meeting
Predictive Analytics in Advancing Public Health Session, 11/3/2015

Bloomberg Data for Good Exchange
Predictive Modeling for Public Health: Childhood Lead Poisoning, 9/30/2015

ACM Knowledge Discovery and Data Mining (KDD) Annual Conference
Predictive Modeling for Public Health: Childhood Lead Poisoning, 8/12/2015

Conference Presentations

Predicting Soil Organic Carbon Variability with Applications for Sampling Design
American Geophysical Union Fall Meeting 2022, Chicago, IL, December 2022

A Bayesian Approach to Recreational Water Quality Model Validation and Comparison in the Presence of Measurement Error
American Geophysical Union Fall Meeting 2022, Chicago, IL, December 2022

Reviewer

Geoderma, Environmental Science and Technology, JAMA Network Open, Earth and Space Science

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.

Industry Experience

University of Chicago 2014–2017
Research Professional II, Center for Data Science and Public Policy

Eric and Wendy Schmidt Data Science for Social Good Summer 2016
Technical Mentor

Open Energy Efficiency Meter (openeemeter.org) 2015
Data Scientist

Oroeco (oroeco.com) 2014
Scientific Software Engineer

Teaching

University of Chicago 2016-2020
Mutlilevel Regression Modeling for Public Policy (Winter 2020)
Introduction to Program Evaluation (Spring 2019, Winter 2020)
Introduction to Programming for Public Policy (Spring 2018, 2016)

Northwestern University 2008–2013
Assistant: Probability & Stochastic Processes, Mechanics, Real Analysis

Skills

Python (numpy, scipy, pandas, sklearn, matplotlib)
R (tidyverse, rstanarm)

SQL (PostgreSQL), Java, JavaScript (D3.js), Ruby (on Rails)
Geospatial (PostGIS, GDAL, OpenStreetMap, Mapnik, QGIS, Leaflet)
git, bash, GNU/Linux, LaTeX
Fluent in Russian

References

- Dan Black, danblack@uchicago.edu
  Professor, Harris School of Public Policy, University of Chicago
- Shira Mitchell, sam942@mail.harvard.edu
  Statistician, Civis Analytics
- Emile Jorgensen, Emile.Jorgensen@cityofchicago.org
  Epidemiologist, Chicago Department of Public Health