Evan J. Coopersmith, PhD

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Executive Summary

As a data scientist with over a decade of academic and professional experiences in software, pricing analytics, marketing analytics, hydrology, agriculture, finance, and consulting, I take pride in developing original, innovative solutions to complex problems. Currently, I lead an advanced analytics team responsible for developing machine learning tools to generate corporation-level insight and guide the CFO. Formerly an academic, I published 14 first-authored and 4 co-authored manuscripts in high-impact, peer-reviewed, international journals, and received awards for excellence in instruction of undergraduates and graduates.

Education

Ph.D., July 2013, University of Illinois, Urbana-Champaign, IL
Civil & Environmental Engineering

Awards:

Englebrecht Fellowship, Awarded to the department's most outstanding student.

CEE Alumni Graduate Fellowship for Teaching Excellence, Designed original syllabus for 500-level graduate course in advanced data science topics for civil and environmental engineers and delivered 20 original lectures. Recognized by students for excellence in teaching.

University Fellowship, Awarded for promise in research.

B.S.E., June 2006, Princeton University, Princeton, NJ
Operations Research and Financial Engineering, Cum Laude

Honor Societies: Tau Beta Pi and Sigma Xi

Data Science Experience

Gerson Lehrman Group (GLG), Chicago, IL & St. Louis, MO
VP of Finance, Head of Advanced Analytics, *Dec. 2019 – Present*
Data Science Contractor, *Aug. 2019 – Nov. 2019*
Principal Software Engineer, *Jul. 2017 – Aug. 2019*
Lead the newly-founded analytics team, generating internal forecasts for corporate 2020 budget. Developed modules for corporate training to improve analytical aptitude company wide. Developed proprietary multi-touch attribute models for valuation of marketing efforts. Constructed machine learning tools to model corporate profits, progress through conversion funnels, and valuation of new data sources. Generated structured prose from textual inputs, ultimately deemed comparable or superior to labor-intensive human composition, producing ~$10M+ of new annual revenue. Developed machine learning tools to discover redundant information database content, saving $2-$3M annually.

The Kini Group, Chicago, IL
VP of Analytics, *Feb. 2017 – Jun. 2017*
Data Science Contractor, *Oct. 2016 – Feb. 2017*
Automated previously spreadsheet-based consulting operations, including data ETL, analytics, visualization, and reporting in python. Managed two senior analysts on multiple projects. Developed a generalized proprietary pricing optimization module to isolate underpricing and suggest proper valuation based on geography, customer relationship, and order-size, leading to 1-2% increases in bottom-line, annual growth. This model is supported by an accompanying incentive compensation module, to improve salesperson pricing outcomes. Derived, developed, and automated and inter-period revenue analytics tools.

Soil Insight LLC, Chicago, IL
Founder and Lead Data Scientist, *Jun. 2016 – Present*
Developed original genetic algorithms and hydro-climatic classification trees to deliver soil moisture estimates at ~0.04m^3/m^3 accuracy, for agricultural and hydrologic decision-support. Leveraging mathematical, hydrologic, agricultural, and geospatial expertise, constructed specialized machine learning tools to deliver soil moisture estimates at 10m resolution anywhere in the continental USA. Results are produced using only public sources of data from NOAA, the National Climatic and Environmental Information center, the Soil Survey Geographic Database, and the U.S. Geological Survey.

Prognostic Data Solutions LLC - Founder, Washington D.C.**,** Chicago, IL, St. Louis, MO
Freelance data scientist and consultant, developing proprietary predictive algorithms
Jan. 2014 – Present

Traffic Hackers – Developed predictive models using web-scraping, sequential normalization, and kernel regression for three major Boston highways. Collaborated with the Massachusetts Department of Transportation to leverage existing speed sensors to ensure more accurate reporting and forecasting. Received mention in the Boston Globe,

Suncoke - Developed proprietary statistical tools and web-scraping to assess probability of large-scale snow events in major American cities.

National Climatic Data Center & Centers for Disease Control (CDC) – Delivered soil moisture estimates at five depths to correct sensor errors, fill gaps, and extend the public soil moisture records at 114 sensors throughout the continental USA. Collaborated with the CDC to research and publish analyses connecting Valley Fever incidence in the Southwest to antecedent soil moisture conditions that promote fungal growth. See publication list.

NASA/USDA, Hydrology & Remote Sensing Laboratory, Washington D.C.
Research Data Scientist, *Aug. 2013 – Sep. 2016*
NASA-funded researcher performing calibration and validation modeling for "in situ" soil moisture sensor networks within agricultural research service (ARS) test watersheds. Machine learning tools include genetic algorithms, k-nearest-neighbors, and other non-parametric classifiers. Achieved out-of-sample accuracy of soil moisture estimation below NASA's target of $0.04 m^3/m^3$, using in-ground sensor estimates and satellite datasets. Developed predictive algorithms for soil moisture at over 100 locations nationwide. Applied geospatial approaches to produce multi-scale soil moisture estimates at USDA and Climate Reference Network test sites. Collaborated with NOAA to assess sensor reliability and CDC to predict incidence of diseases driven by soil-borne pathogens. See publication list for specific manuscripts.

John Deere Technological Innovation Center, Champaign, IL
Research Data Scientist, *May 2012 – Jul. 2013*
Produced predictions of field readiness with over 90% accuracy. Collaborated with agronomic researchers. Assessed financial opportunities with respect to usage of 'big data.'

BCW Group LLC, New York, NY
Principal and Co-Founder, *Jan. 2008 – Apr. 2009*
One of three founding members of a quantitative hedge fund start-up at NYMEX. Achieved 7% returns during a period in which the equity markets fell 35%. Developed proprietary trading algorithms, implemented from 9/2/08 to 4/28/09. Employed neural networks and other machine learning models to build superior risk/reward ratios.

Freelance Sabermetric (Baseball Statistics) Modeler, Princeton, NJ and Champaign, IL
Spring 2006 – Fall 2007
Developed a proprietary non-parametric predictor for assessing the probabilities of various outcomes using a database of over 50,000 historical baseball games. Placed over 4,000 wagers over the course of two seasons. Produced 130% annual returns.

Publications **Full list of publications can be accessed at:**
http://www.prognosticdatasolutions.com/Coopersmith_Publications.pdf