Evan J. Coopersmith, Ph.D.

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EDUCATION

Ph.D., Civil & Environmental Engineering | University of Illinois at Urbana-Champaign, Champaign, IL
Bachelor of Science, Operations Research & Financial Engineering | Princeton University, Princeton, NJ

EXECUTIVE SUMMARY

Insightful analytics professional and leader who builds analytics functionality where none exists. Experience across domains including hydrology, climate science, financial markets, consulting, agriculture, tech startups, and sporting events. Comfortable on stage at SXSW or installing soil sensors in the deserts of Arizona.

Trusted thought partner to executive stakeholders who delivers complex mathematical ideas succinctly and distills numerical chaos into actionable decisions. Creates analytics and business intelligence capabilities where none exist.

Gifted communicator and passionate teacher in academic or corporate settings. Leads colleagues and reports to become better-thinking, more quantitatively-enabled versions of themselves.

Critical thinker and complex problem solver who has traded derivatives profitably during the 2008-subprime collapse from a desk in Manhattan, predicted agricultural moisture levels from a cornfield-side office in the midwest, and baseball games remotely. Solves the problem as the leader of a team or as an individual as needed.

SELECTED ACCOMPLISHMENTS

Proven track record of adding value through quantitative insight and strategic thinking

- (GLG) Automated the compositions of biographic information, in natural language, via an original algorithm, for millions of experts within a database. Performed work independently with a single collaborator, yielding $10M in new revenue.

- (GLG) Created, assembled, and led a new advanced analytics team for a 2,500-person organization. Analyzed, segmented, and modeled drivers of hidden growth in costs to deliver core product, saving $3-$4M annually.

- (AE Studio) Led two panels on brain-computer interface (BCI) neurotechnology, served as a speaker at AI LA, and appeared on the Forbes Tech podcast and several others to promote the team's research efforts.

- (BCW) Developed proprietary machine-learning algorithms and original risk management algorithms to trade commodity and equity derivatives during the 2008 subprime collapse. Achieved profits of 8% over a period during which global markets fell 35%.

- (USDA/ARS) Worked on a grant through NASA's SMAP mission, predicted soil moisture at 100+ topologically, climatically, and edaphically diverse locations, achieving accuracy levels beyond NASA standards via original machine learning models, hydroclimatic classification, and model calibration

- (Princeton) Developed a proprietary, non-parametric model to forecast the outcome of baseball games and achieved 130% annual returns over approximately 3,000 wagers for two consecutive seasons.

PROFESSIONAL EXPERIENCE

RATIONAL PASTIME, Remote   **2023 – Present**
Founder, Chief Analytics Officer

Co-founded a syndicate to compose mathematical models to forecast the outcome of sporting events. Developed data pipelines for scraping and ETL, then developed proprietary algorithms with which to trade.

Agency Enterprise (AE) Studio, Los Angeles, CA (Remote) **2021 – 2023**

EVP of Data Science

Created an analytics infrastructure where none existed. Developed internal FP&A, managed younger developers and administrative professionals to build integrations with personnel, invoicing, sales funnel, and accounting software, along with custom applications. Developed AE's first revenue projection models to balance staffing needs with projected incoming deal flow and uncertain invoice payments. Modeled, navigated, and managed reductions-in-force during the tech downturn of 2023. Partnered with business development to scope, propose, and sell data science projects to clients, growing data science from approximately 10% of revenue to approximately 25% during my tenure. Managed and mentored younger professionals in both administrative and quantitative roles. Lead public-facing efforts to promote internal data science research at SXSW, AI LA, TDC Brazil, and on various podcasts. Interviewed and hired data scientists. Delivered quantitative insights for wearable technology as a client-facing data scientist and for internal neuroscience research. Reported to CEO.

Gerson Lehrman Group (GLG), New York, NY (Remote) **2017 – 2021**

VP of Finance, Global Head of Advanced Analytics **2019 – 2021**

Created and built a centralized advanced analytics functionality, to manage and mentor analysts across matrixed departments, and to raise the level of quantitative rigor across the organization. Became the C-suite's trusted source for both visibility and strategic insight beyond dashboards. Reported to the SVP, Head of Product.

Lead the newly-founded analytics team, generating internal forecasts for the 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. Developed machine learning tools to discover redundant information in database content, saving $2-$3M annually. Oversaw the construction of the first company-wide estimate of every client's lifetime value via a combination of machine-learning, clustering, and financial modeling. Used thereafter by pricing and marketing teams for contract renewal negotiations.

Mentored and taught 50+ employees across 6 company departments, designing and teaching 20 lectures over a twelve-month period to raise the level of mathematical competence throughout the organization

Principal Software Engineer **2017 – 2019**

Developed algorithms to generate profit using SQL, Python, and Javascript. Reported to the CTO. Generated structured prose from textual inputs, ultimately deemed comparable or superior to labor-intensive human composition, producing ~$10M+ of new annual revenue. Updated, improved, and developed reporting for the company's internal search tool. Developed proprietary algorithm for deduplication of database records, with 0 reported false positives. Became the technology team's lead resources for designing statistically-valid experiments and demonstrating value to C-suite and other stakeholders.

The Kini Group (TKG), Chicago IL (Remote)

Data Science Consultant, VP of Analytics **2016 – 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 inter-period revenue and margin analytics tools.

US Department of Agriculture (USDA), Washington, DC

Postdoctoral Research Data Scientist   **2013 – 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 $0.04m^3/m^3$, 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. Published 12 manuscripts in peer-reviewed, international journals.

John Deere Technological Innovation Center, Champaign, IL

Postdoctoral Research Data Scientist   **2012-2013**

Produced predictions of field readiness with over 90% accuracy. Collaborated with agronomic researchers. Assessed financial opportunities with respect to usage of the proprietary datasets produced by Deere's equipment and sensors.

BCW Group LLC, New York, NY

Principal and Co-Founder   **2008-2009**

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.

PROJECTS

Prognostic Data Solutions LLC (Remote)

Founder

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 - Contracted to develop 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) – Contracted to deliver 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.

Soil Insight LLC (Remote)

Co-Founder

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.

Baseball Modeling, Princeton, NJ

Founder   **2006-2007**

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.

ACADEMIC

University of Illinois, Urbana-Champaign (PhD)

- ▪ **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

Princeton University

- ▪ **Tau Beta Pi** – Awarded to top quintile of engineers

- ▪ **Sigma Xi** – Awarded for excellence in research

See full publication list on my Google Scholar profile