ALAN J. SALZBERG, PH.D.
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EXPERIENCE

Salt Hill Statistical Consulting, Founder and Principal, 2000-present
Salt Hill Statistical Consulting is skilled at presenting complex ideas to non-experts, including providing expert testimony in more than two dozen trials, hearings, and depositions over the last 20 years. Capabilities include development and implementation of statistical techniques as well as critical review and audit of existing statistical estimates, samples, and models. The company's clients are law firms, government, and private corporations and have included: United States Departments of Justice and Labor; Pfizer; Barnes & Thornburg; Honeywell; K&L Gates; City of New York.

Summit Consulting, Teaming Partner, 2009-present
Consult on multiple engagements on large-scale government projects. Served as a Director at the firm in 2014.

Statistics Instructor, Wharton School, University of Pennsylvania, 2022-2024
Taught honors introductory undergraduate statistics courses. The courses covered statistical sampling, experimental design, probability, regression modeling, and other statistical analyses.

Analysis & Inference, Inc., CEO, 1991-1995 and 2008-2013
Led a statistical consulting company that provides consulting services to corporations, law firms, and government.

KPMG LLP, Practice Leader, Quantitative Analysis Group – New York, 1996-2000
Established and led the New York office of KPMG's Quantitative Analysis Group.

Morgan Stanley, Associate, 1988-1990, 1995-1996
Performed statistical modeling and software design.

EDUCATION

Ph.D., Statistics, Wharton School, University of Pennsylvania, 1995
M.A., Statistics, Wharton School, University of Pennsylvania, 1992
B.S., Economics (concentration in Economics and Finance), *cum laude,* Wharton School, University of Pennsylvania, 1988

ENGAGEMENTS

- Served as a statistical consultant on behalf of the United States government and other entities in the development of dynamic models for residential property valuation in order to determine whether certain residential mortgage-backed securities (RMBS) were fairly valued. Made use of statistical and econometric techniques including regression modeling, statistical sampling, bootstrapping, and bias adjustment.
- Served as a statistical expert on behalf of a nuclear power plant owner in a construction delay dispute. Analyzed a statistical sample and model from a population of more than 100,000 comments on design documents. Authored three expert reports and testified before the International Chamber of Commerce's arbitration court in London.

- On behalf of the United States Department of Labor, acted as the principal investigator on a study of industry compliance with labor laws relating to wages and overtime. Developed and pulled a statistical sample for evaluation. Performed survival analysis to better understand how long certain industry investigations would last and the likely outcomes of such investigations.
- On behalf of the New York State Office of Medicaid Inspector General, reviewed the sampling and estimation methodology used to audit Medicaid providers in New York State. Reviewed and critiqued specific methodologies in ongoing matters, and provided recommendations for improving the statistical audit process.
- Using social security and insurance company data, developed two probability-based models in order to match unclaimed assets with the individual owners of those assets. The models were successfully implemented at our client, a financial services company, and used to assist state agencies in locating unclaimed assets.
- In numerous matters on behalf of the United States Department of Justice, designed and implemented statistical samples and analyzed healthcare data to assist in ascertaining the validity of claims of civil fraud and, when appropriate, quantified the extent of such fraud. Wrote expert reports and advised the DOJ on the statistical strength of the evidence.
- Assisted the City of New York in a matter concerning the potential discrimination inherent in certain rules regarding a housing lottery. Served as an expert consultant in evaluating demographic data on hundreds of thousands of applications and the results of the lottery over several years.
- Served as a statistical sampling expert on behalf of an arbitration panel in a dispute regarding payments on several thousand healthcare claims. Analyzed data from samples of those claims and made recommendations to the arbitration panel regarding proper interpretation and extrapolation of the sample.
- On behalf of a Fortune 100 company, evaluated models that estimated the potential liability in more than 10,000 asbestos settlements. In addition, reviewed the likely bias and other issues with a model that predicted the "propensity to sue" for future claims. Wrote two expert reports concerning findings and testified as a statistical expert regarding those findings.
- In a series of matters on behalf of the law department for a major city, created and analyzed a massive real estate database, modeled market and sales values, and wrote expert reports to determine potential biases of alternative methods of valuing commercial real estate. Determined the validity of assumptions about lease lengths, turnover rates, and other issues affecting rents and property values. Testified as a statistical expert in one of these matters.
- For major pharmaceutical company, analyzed company and external marketing data to determine reliability and potential biases in using external data sources. Analyzed physician-specific data for a period of 36 months concerning product marketing to approximately 1 million prescription drug subscribers.
- In complex litigation matter involving an undersea oil field, analyzed data from several years of inspections and repairs to determine likelihood of a catastrophic failure that would result in a major oil spill. Used survival analysis to determine the likelihood of such an event for different inspection and repair cycles.
- On behalf of several state public service commissions, directed data analysis and statistical design in a series of tests of Bell South, Verizon, SBC-Ameritech, and Qwest. Developed software and procedures for calculating performance metrics and evaluating the competitive environment.

Testified before several state public service commissions, including New York, Virginia, Florida, Michigan, and Colorado.

- Modeled television audience ratings to determine the Public Broadcasting System's share of cable royalty distributions. Used statistical methods to determine a reliable estimate of PBS's cable royalty share. The estimate resulted in a multi-million dollar decision in favor of the Public Broadcasting System by the Cable Royalty Tribunal.
- Lead statistician in the design and implementation of a sample of all personal property and equipment on behalf of the United States Internal Revenue Service. The population of interest involved more than one million items contained in over 1,000 buildings. The sample design, implementation, and resulting estimates and projections were subject to intense scrutiny by the United States General Accounting Office.
- For the United States Department of Justice, designed and implemented a sample to estimate the number of immigrants improperly granted citizenship. The sample was designed to provide precision of plus or minus less than 1%, for a population of more than 1 million immigrants. The work was the focus of intense congressional scrutiny and received substantial review in the media.
- On behalf of Fortune 100 company, created statistical models to determine the probabilities and likely severities of accidents for different employee and accident types. This project resulted in recommended annual savings of $3 million.
- On behalf of the Arava Institute of Environmental Studies, advised on design and sampling methodology for a broad-based survey of environmental education in middle and high schools. More than 7,000 students were surveyed in a sample that was stratified by size of town, income level, and other socio-economic variables. Performed weighted statistical analysis to project survey results to the population. Presented results before Israeli Congressional committee.
- For the United States Customs Service (Department of Homeland Security), assisted with sampling of financial statement information. Designed and wrote sampling plans, helped implement the plans, and created spreadsheet calculator to analyze results. In an earlier engagement, evaluated the credibility of statistical sampling and analysis used to track and categorize imports, for the Office of Inspector General. Suggested improved methods of sampling and implementation.

PUBLICATIONS

"Robust Regression and Bootstrapping for Bias and Precision Quantification," with Albert Lee*, Joint Meetings of the American Statistical Association*, 2025 (presented by Albert Lee).

"By ignoring statistics, the government sometimes spread pandemic misinformation", Speed and Poster Presentation*, Joint Meetings of the American Statistical Association*, Portland, Oregon, 2024.

"The Insanity of Mandating Camp Boosters for Kids," with Abraham Wyner, *Tablet Magazine*, June 2022 (see https://www.tabletmag.com/sections/science/articles/the-insanity-of-mandating-camp-boosters-for-kids).

"What are the Chances?" blog, 2007 to present. Excerpts have been included in newspapers and textbooks, including Lundsford, Andrea L. and Ruszkiewicz, John, *Everything's an Argument, 6th Edition,* 2012. The blog is publicly available at https://salthillstatistics.com/blog .

"From Fingerprints to Opioids: How Data Science Can Support Law and Public Policy," with Corey West, *Kansas Journal of Law and Public Policy,* Summer 2020.

"Resolving a Multi-Million Dollar Contract Dispute with a Latin Square," *American Statistician*, with William B. Fairley, Steven M. Crunk, Peter J. Kempthorne, Julie Novak, and Bee Leng Lee, 2017.

"Law and Statistics of Combining Categories: Wal-Mart and Employment Discrimination Cases", with Albert J. Lee, *Proceedings of the 2010 Joint Statistical Meetings of the American Statistical Association*, 2010.

"Evaluating the Environmental Literacy of Israeli Elementary and High School Students," with Maya Negev, Gonen Sagy, and Alon Tal, *Journal of Environmental Education,* Winter 2008.

"Trends in Environmental Education in Israel," with Gonen Sagy, Maya Negev, Yaakov Garb, and Alon Tal, *Studies in Natural Resources and Environment,* Vol. 6, 2008. [In Hebrew]

"Results from a Representative Sample in the Israeli Educational System," with Gonen Sagy, Maya Negev, Yaakov Garb, and Alon Tal, *Studies in Natural Resources and Environment,* Vol. 6, 2008. [In Hebrew]

"Mapping Environmental Literacy in Israel," with Gonen Sagy, Maya Negev, Yaakov Garb, and Alon Tal, 35th Annual NAAEE Conference: Building Environmental Education in Society, St. Paul, MN, 2006.

"Comment on Local model uncertainty and incomplete-data bias by Copas and Li," with Paul R. Rosenbaum, *Journal of the Royal Statistical Society, Series B*, 2005.

"Determining Air Exchange Rates in Schools Using Carbon Dioxide Monitoring", with D. Salzberg and C. Fiegley, presented at the *American Industrial Hygiene Conference and Expo*, 2004.

"The Modified Z versus the Permutation Test in Third Party Telecommunications Testing", *Proceedings of the 2001 Joint Statistical Meetings of the American Statistical Association*.

"Removable Selection Bias in Quasi-experiments," *The American Statistician,* May 1999.

"Skewed oligomers and origins of replication," with S. Salzberg, A. Kervalage, and J. Tomb, *Gene,* Volume 217, Issue 1-2 (1998), pp. 57-67.

"Selection Bias in Quasi-experiments," (Doctoral Thesis), 1995.

Editorial Contributor (referee for scholarly papers)**,** *American Statistician*.

***Patent** (#6,636,585)* One of five inventors on a patent for statistical process design related to information systems testing.

PERSONAL

Languages: English (native), Hebrew (conversational).
Enjoy ultimate Frisbee, biking, hiking, running, tennis, chess, and bridge.