

EDUCATION

University of California, Berkeley – Master of Information and Data Science May 2019 (anticipated)

Relevant coursework: Statistics for Data Science; Statistical Methods for Discrete Response, Time Series & Panel Data; Experiments & Causality; Applied Machine Learning; Natural Language Processing; Python for Data Science

Project portfolio: https://github.com/colbycarter/Data_Science_Portfolio

College of the Holy Cross, Worcester, MA May 2012
Bachelor of Arts, *cum laude*, Economics and Mathematics GPA: **3.67/4.00**

TECHNICAL SKILLS

SAS, SQL (Teradata, MS SQL Server), R, Python (Jupyter, NumPy, pandas, scikit-learn, NLTK, Tensorflow), Git, Excel

PROFESSIONAL EXPERIENCE

Liberty Mutual Insurance, U.S. Claims Boston, MA
Consultant, Special Investigative Unit (SIU) Advanced Analytics July 2017-present

- Statistically test predictive power of potential fraud indicators and interactive terms from numerous data sources for use in business rules, claims reports for examination and inclusion in predictive models
- Quantify effectiveness of new processes using difference-in-difference and other analyses of quasi-experiments
- Forecast regional investigation demand to guide staffing decision-making, limit costly over-staffing and excessive workloads, and report on key performance metrics including productivity, case inventory, cycle time and vendor usage

Senior Analyst, NF/SS/SIU Advanced Analytics January 2016-June 2017

- Developed and tested OLS and logistic regression models to identify key operational metrics associated with customer claim satisfaction scores, and recommended areas of strategic focus to business leaders, such as cycle time targets
- Built models forecasting monthly claims volume and staffing needs based on employee productivity targets and regional policy growth expectations to aid staffing decisions for SIU, subrogation and no-fault field operations
- Estimated linear time series and autoregressive models to predict future J.D. Power claims satisfaction scores
- Produced claims data using stratified random sampling for quality improvement reviews of field performance

Analysis Group Boston, MA
Senior Analyst/Analyst February 2014-December 2015

- Assisted with expert reports and other client deliverables in economic litigation across industries including automobiles, pharmaceuticals, energy and technology
- Rigorously cleaned and standardized several large client datasets representing billions of dollars in automobile part sales using SAS and SQL for purposes of assessing economic damages
- Operated as internal expert on major software client's SQL sales databases and delivered on ad hoc data requests
- Developed dynamic models and charts in Excel estimating lost sales and profits but-for alleged anticompetitive behavior by brand and generic pharmaceutical manufacturers
- Supported research on alternative television-viewing platforms and difference-in-difference statistical analysis of survey data estimating consumer preferences
- Automated prescription drug price data-scraping from public online resources using VBA and SAS

Concentric Energy Advisors Marlboro, MA
Assistant Consultant/Analyst June 2012-January 2014

- Contributed to expert reports on cost of capital for North American electric and gas utilities; contributions included regulatory research, data collection, DCF and CAPM financial modeling, and regression analysis
- Built interactive, price-optimizing financial models in Excel and assisted with development of user-manuals for electric generators in the New England power market capacity auctions
- Evaluated fair market value and replacement cost of power-generating assets for sell-side advisory
- Forecasted demand for natural gas distribution in Massachusetts with econometric models using SPSS
- Categorized costs of a major nuclear plant upgrade and assisted with written testimony in support of plant

Actuarial Intern, Sun Life Financial, Wellesley, MA Summer 2011

- Replicated modeling using new actuarial software for two life insurance products originally priced in Excel
- Passed first two actuarial exams on probability and financial mathematics

Actuarial Intern, Hanover Insurance Group, Worcester, MA Summer 2010

- Estimated premium changes using competitor rates on specialty casualty products by state market