ROSS BROWN, PH.D.
DATA SCIENTIST

✉ ross.brown.data.science@gmail.com
🌐 rossbrownphd.github.io/   📞 (747) 224-1820
📍 Los Angeles
in rossbrownphd/   ⭘ RossBrownPhD

EDUCATION

2018 **Springboard**
Data Science Career Track

2017 **General Assembly**
Data Science; Python Bootcamp

2010 **University of Illinois Chicago**
Ph.D. Measurement, Evaluation, Statistics and Assessment

Bradley University
BS Journalism, Journalism
Photography

SUMMARY

My 10 years as an analyst and consultant advising groups as they implemented mission-critical programs based on specialized statistical models serves me well as a data scientist. I'm experienced at formulating business questions and using specialized analysis models to provide answers, and then interpreting and communicating the results for practical application. I've implemented data science projects to help clients predict customer demand, and I've developed engaging data visualizations based on data I acquired and wrangled. As a psychometrician, I've spent years wrangling large, multidimensional data sets to identify errors, ensure data integrity, and prepare data for analysis.

SKILLS

DATA SCIENCE: Python: pandas, numpy, plotly, cufflinks, matplotlib, scikit-learn, seaborn, nltk; SQL; SPSS; github
STATISTICS: Machine learning, inferential and Bayesian concepts and methods, psychometric theory and methods (Rasch and classical), hierarchical linear modeling
COMMUNICATION: Business and scientific writing and editing, presenting at business and research conferences, leading task-oriented workshops, presenting and advising at board meetings
CONSULTING: High-level advising for the development, administration and analysis of high-stakes testing programs, ad hoc technical consulting and research relating to statistical and psychometric issues.

DATA SCIENCE PROJECTS

CAN WINTER SEVERITY PREDICT ADMISSIONS FOR ALCOHOLISM TREATMENT?   Mar. 2018
Research ties alcoholism to seasonal affective disorder (SAD), a depressive mood disorder associated with seasonal winter weather. I created a pilot study for a network of alcoholism treatment centers to see if they could predict patient treatment demand -- and thereby manage staffing needs -- based on the severity of a given winter season, as measured by an index from the National Weather Service.

VISUALIZING MOVIE COUPLES' AGE DISCREPANCIES OVER TIME   Aug. 2018
Using data from Lynn Fisher (https://github.com/lynnandtonic/hollywood-age-gap) and Plotly, I created this interactive visualization.

CLASSIFICATION VIA LOGISTIC REGRESSION, CROSS VALIDATION, AND GRID SEARCH   Aug. 2018
Work sample demonstrating these machine learning methods.

SNARKY, UTILITARIAN OR ABSTRUSE: COMPARING MOVIE REVIEWERS' WRITING STYLES VIA NLP   Sept. 2018
This data science project sought to compare movie reviewers' writing styles using a natural language processing technique that can quantify the similarity of text: cosine similarity of document vectors.

TEXT CLASSIFICATION: NAIVE BAYES, LOGISTIC REGRESSION, SVM, TF-IDF VECTORIZATION   Sept. 2018

ADDITIONAL WORK SAMPLES
Links to Python code, data science visualizations using Plotly, client presentations, videos and Powerpoints are at my blog.

EMPLOYMENT

ROSS BROWN DATA SCIENCE AND PSYCHOMETRICS   Los Angeles
Data Scientist and Psychometric Consultant   Apr. 2016 to Current
♦ Consultant to the American Board of Professional Neuropsychology (ABN) for its multi-year project to update the ABN Written Exam Program. The project plan I developed ensures that test development and scoring procedures align with the *Standards for Educational and Psychological Testing,* and are appropriate for ABN's resources.
♦ Advised The Finished Product, Dumfries, Va., as it identified the challenges and potential solutions facing a home-schooling group that sought to launch a norm-referenced K-12 testing program.
♦ Advised Membean, Inc., as it developed a plan to analyze and interpret the performance of its multidimensional K-12 vocabulary learning items.
♦ Consultant for The American Board of Venous and Lymphatic Medicine in assessing different scoring methods.

PSI SERVICES LLC   Los Angeles
Senior Psychometrician   Apr. 2014 to Mar. 2016
Psychometrician and consultant for certification testing programs. ♦ Psychometric work: job analysis, item writing and exam drafting workshops, standard setting, and CTT equating. ♦ Client management work: planning and implementing program improvements. ♦ Business development work: developing SOWs for new projects, developing proposals for project bids.

MEASUREMENT INCORPORATED   Chicago
Senior Psychometrician   Jan. 2005 to Mar. 2014
Conduct ad hoc research and analysis, and provide consulting expertise on issues such as possible disclosure of exam content, the implications of changes to exam format, scoring exams that inadvertently gave the answers to questions to subgroups of candidates, and all aspects of launching new testing programs.
Guide and instruct lay people on different statistical concepts and methods to develop cut scores for written exams; and develop and validate content, and train and calibrate examiners for performance assessments.
Implemented one-parameter and many facet statistical psychometric models for the analysis and equating of exams and performance assessments.

AMERICAN DENTAL ASSOCIATION   Chicago
Test Development Coordinator   June 2001 to Dec. 2004
The primary test development liaison between the American Dental Association's Department of Testing Services and its outside testing clients. Worked with SMEs to develop and score dental specialty certification exams, interpret item statistics, and revise items. Developed Optometry Admissions Test and Canadian Dental Admissions Test.

INTERNET START-UPS AND BUSINESS MAGAZINES   Chicago
Freelance marketing writer and editor, graphic designer, business journalist, and managing editor   Jan. 1997 to Aug. 2001
Wrote and edited research reports, press releases, speeches, white papers, case studies, articles, emails and newsletters. Wrote and edited business magazine news and feature articles. ♦ As managing editor of business magazines, I managed staff, budgets, editorial development and production.