Ryan T. Harter

Los Gatos, CA 95032

EXPERIENCE

Google - *Data Scientist/Quantitative Analyst* 2013 - Present

Member of the Search Quality team. Responsible for measuring and monitoring the quality of the world's two largest search engines: Google and YouTube.

- *Launch Evaluation* - Designed experiments and metrics to determine quality of candidate changes to Google search. Executed a mixture of statistical analyses including surveys and A/B tests on live traffic. Summarized results in a definitive report and presented to executive leadership on a weekly basis.
- *YouTube Search Quality* - Lead analyst for the YouTube Search Quality team. Sole analyst responsible for designing quality metrics and experiment methodology for the launch of the YouTube Music app. Designed and implemented complex survey instruments to measure absolute and relative search quality. Performed exploratory analysis of logs data to explain unusual feature behavior and identify headroom.
- *Survey Design Reviewer* - Member of a small team of analysts responsible for approving the methodology, design, and implementation of all conducted surveys.
- *Rater Quality Research* - Many quality experiments are surveys sent to a set of paid 'raters', similar to mechanical turkers. Designed and implemented metrics to monitor the quality of the raters and their responses. Built an R based system to approximate the recall of our monitoring signals. System was parallelized and distributed to accommodate the huge amount of data processed.

Energy Ventures Analysis - *Quantitative Analyst* 2011 - 2013

Sole Quantitative Analyst for the Power team. Designed, built, and validated quantitative market models across market areas.

- *Predictive Regression Model* - Designed and specified power demand forecasting model. Managed validation, documentation, and presentation.
- *Public Utility Council of Ohio; Case 10-2929-EL-UNC* - Researched and became expert in capacity market operations over 4 week engagement. Proposed and executed a novel method to estimate the contested fair capacity payment. Provided verbal and written testimony defending my methodology to the court. The court accepted my methodology with minor adjustments reducing AEP's proposed payments by 44%, totaling over $1 billion.
- *Barge Cost Model* - Designed and built a Python based route finding algorithm and a flexible Excel interface to estimate the cost of barging coal between any two points on the US navigable waterway.

Pace Global Energy Services - *Quantitative Analyst* 2010 - 2011

Quantitative Analyst for the Power Team.

- *Screening tool* - Designed and implemented an agent based power market model in Excel/VBA to allow clients to do basic market simulations.
- *Risk Integrated Product Development* - Maintained and developed MATLAB based stochastic series generators to feed power market Monte-Carlo simulator.

EDUCATION

James Madison University 2006 - 2010

Bachelor of Science Quantitative Finance, Mathematics, Economics

Minor Computer Science

SKILLS & TOOLS

Excellent with R, Python, MATLAB, Excel/VBA

Competent with C, JavaScript, SQL, FORTRAN, Java, C++

Specialties in Experiment Design, Algorithm Design, Survey Design, Stochastic / Monte Carlo Simulation, Power Markets, Report Automation

AFFILIATIONS

Tau Kappa Epsilon - Treasurer, Recruitment Chair, Historian, Alumni Chair, Secretary

Pi Mu Epsilon Honors Fraternity - Secretary