Ryan T. Harter

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EXPERIENCE

Mozilla - *Senior Data Engineer* 2016 - Present

Member of Firefox Data Engineering. Responsible for developing tools that make it easy to answer questions about our users.

- `python_mozetl` - Built an open-sourced repository of Python/Spark based ETL jobs. Moved peer work out of jupyter notebooks and into maintainable, testable, and shareable python repositories.
- *Derived Datasets* - Built Scala/Spark based derived datasets to drastically reduce analysis times. Part of a data pipeline that processes terabytes of data a day.

Google - *Data Scientist/Quantitative Analyst* 2013 - 2016

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.
- *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* - Built a distributed an parallelized system in R to simulate the effect of bad survey respondents.

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* - Built an agent based power market model in Excel/VBA
- *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 Python, R, Scala, 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