**John Muller**

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<http://LinkedIn.com/in/quantjohn> | <http://github.com/jhmuller/jhmuller.github.io>

**Data Scientist**

Data Scientist with Ph.D. in Computer Science and multiple certificates in analytics/data science.

*Predictive Modeling | Data Munging | Business Acumen | Communication Skills | Data Visualization*

Capable of developing, monitoring and maintaining predictive models and communicating the concepts and results to both technical and non-technical audiences. Strong in Data Science as well as its statistical and AI underpinnings. Four+ years of experience as a data scientist. Focused on solving business problems and delivering value. Relevant past accomplishments include:

* Designed and built a dashboard for Portfolio Managers to compare returns and exposures for sets of portfolios, allowing them to identify both anomalies and opportunities in their portfolio strategies.
* Estimation and analysis of customer retention across markets to promote winning strategies.

**AREAS OF EXPERTISE**

Analytics| Data Science | Python | SQL | Predictive modeling | scikit Learn/pandas/numpy | keras/tensorflow | pytorch

**PROFESSIONAL EXPERIENCE**

**Bank of America | Charlotte, NC | 2022 –Present**

*Bank of America is one of the largest banks in the US.*

**Contract Python Programmer**

Developing Python and SQL tools to give the bank a more flexible process for loading and managing

sensitive data.

* Updated Airflow python code for more robust output.
* Completed Swagger yaml file documentation of API endpoints.

**Lowe’s | Charlotte, NC | 2021 - 2022**

*Lowe’s is a large home improvement retailor*

**Contract Data Scientist**

On the team responsible for alternative recommendations on the website. The team was transitioning from rule-based methods to machine learning models in part because the rule-based methods don’t do well with new products.

* Coded several rules-based methods for recommendations, one was put into production.
* Built a graph ML recommendation algorithm that can use product attributes as well as web view data. This was important because it addressed the issue of new products which have no history of view data.

**PNC Bank | Charlotte, NC | 2019 - 2021**

*PNC is a large retail and commercial bank*

**Python/SQL Code Reviewer**

Review code to ensure that it satisfies given requirements.

* Developed a Pandas data frame profiling tool that produced an extensive summary of a data frame, saving time for all reviewers and money for the firm.
* Helped avoid Regulatory Penalties by reviewing over 24 sets of Python and SQL code to ensure that the code meets the requirements and that the results are reproducible.

**Acadian Asset Management | Boston, MA | 2013 - 2018**

*Acadian is a quantitative asset manager with around 100Billion under management*

**Vice President and Analytics Lead**

Served both in the portfolio construction and implementation teams.

* Designed and built a dashboard for Portfolio Managers to compare returns and exposures for sets of portfolios, allowing them to identify both anomalies and opportunities in their portfolio strategies.
* Implemented adding transaction costs into the attribution framework giving Portfolio Managers a better understanding of the effects on returns of the transaction costs. Resulted in re-estimation of transaction costs.
* Devised and implemented a method to estimate broker skill based on page rank. Knowledge of broker skill is critical in managing execution costs and impacts on alpha.

**Enter The Data | Boston, MA | 2012 - 2013**

*This is my own brand for analytic consulting*

**Data Scientist**

Provided analytic and data science consulting for a diverse set of clients including: a subscription based baby-sitting service, a hiring evaluation company, a weather service, and more.

* Estimation and analysis of customer retention across markets to promote winning strategies.
* Estimated the effects of weather on sales to optimize inventory around extreme events.
* Used K-means clustering of survey data to reveal natural groupings of the population.
* Estimated the value of marketing campaigns to optimize marketing spend.

**State Street Associates | Boston, MA | 2007 - 2012**

*State Street Associates is the research arm of State Street Corporation’s trading operation.*

**Vice President, Manager and Analytic Lead**

Our team was responsible for creating and publishing indicator signals of institutional investor flow and holdings. These signals were used by hedge funds and other asset managers in their trading and portfolio management decisions.

* Team leader for the group responsible for creating both the Fixed Income and Equity holdings indicators.
* Managed teams that developed and released 14 new Foreign Exchange and Equity flow indicators.
* Built a dashboard for the Securities Lending traders that unified their data and allowed for new kinds of comparison and analysis. Once complete it was put into use on the desk immediately.

**Bank of America | Atlanta, GA | 2001 - 2007**

*Bank of America is one of the largest banks in the US.*

**Vice President, Analytics Lead**

Served in Consumer Real Estate, Risk Management and Corporate Investments. In each role provided analytic insights relevant to the business.

* Developed tools to analyze differences in rates on corporate bonds with the same rating to support a project on revising corporate loan hedging strategies.
* Analyzed loan-level cash flow data and built models to predict mortgage servicing profitability. Loan servicing fees are an important revenue stream for the bank.
* Extensive analysis on the effects of pricing policies on application volume for the mortgage pricing team.

**EDUCATION & CERTIFICATIONS**

**Ph.D. Computer Science**, Georgia Institute of Technology, Atlanta, GA

**B.S. Computer Science,** University of Georgia, Athens, GA

**Artificial Intelligence Professional Program,** Stanford University

* Machine Learning, XCS229
* Machine Learning with Graphs, XCS224
* Artificial Intelligence: Principals and Techniques, XCS221

**DeepLearning.ai courses** including Neural Networks and Deep Learning and Sequence Models

**Dealing with Big Data**, MIT

**Certificate in Quantitative Finance**, Math track, CMU

**Statistical Methods in Finance**, Stanford University