John Muller

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Overview

▷ Computer Scientist(Ph.D.), Data Scientist, and Finance Quant with over 15 years of experience solving analytic problems, building models and adding value in a variety of industries.

▷ Data Science practitioner with multiple certificates in analytics/data science/visualization and over 6 years of experience building supervised and unsupervised models ranging from k-means, random forests, boosted trees, and regression to LLMs, GenAI, RAG, embeddings et ceterra.

▷ Excellent problem-solving, critical-thinking, and presentation skills.

Skills/Areas of Expertise

- Python (10 years) and it's ecosystem: notebooks, pandas, numpy, et cetera.
- In depth knowledge of Machine Learning algorithms ranging from regression to ensemble methods to deep neural network.
- Scikit learn, keras/tensoflow,and pytorch.
- SQL, Git
- Many courses and projects on GenAI topics using tools such as HuggingFace, Langchain, Langgraph, CrewAI, and ChromaDB to build NLP applications using LLMs.
- Experience with both open and closed source LLMs: e.g. OpenAI, Anthropic, Llama.
- Experience with time series forecasting.
- Experience building both supervised and unsupervised models.
- Experience with data visualization tools such as Spotfire and Matplotlib.
- Experience with large data sets: PySpark, Impala and Hive.
- Excellent communication skills.
- Experience as team leader/manager as well as individual contributor.

Sample of relevant past accomplishments

- Worked with an HR company to improve their applicant matching by clustering employee types.

- 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.

- Proposed and built and innovative graph ML model that can use product attributes as well as web traffic data. This was important because it addressed the issue of new products which have no history of view data.

- Built prototype LLM backed apps using Langchain, Langgraph, Hugging Face, OpenAI, CrewAI and other tools. See Github link above.

Professional Experience

Data Scientist @ **Bank of America** Oct 2024 - June 2025

Member of the Financial Crimes/Anti Money Laundering group. Working on improving the efficiency of the process which searches billions of transactions and millions of entity records. Using Python, SQL, Teradata, hive, Spark and other such tools.

Senior Analyst/Data Scientist @ **TIAA** Nov 2023 - July 2024

Member of a team using ML/AI and NLP to make document processing more efficient. Using Python, SQL, Google cloud, Vertex AI, et cetera. Projects include:

- classify written customer feedback as a "complaint" or not and route accordingly. and

- automatically generate a response letter to customers once their issue has been resolved.

Contract Python Programmer @ **Bank of America** Dec 2022 - Oct 2023

Developing Python and SQL tools to give the bank a more flexible process for detecting and managing data issues.

- Empowered IT to quickly diagnose problems with ETL process by updating Airflow Python code that produced robust output.
- Enabled IT to determine inputs and outputs by completing Swagger yaml file documentation of API endpoints.

Data Scientist   @ **Lowe's**   Nov 2021 - Apr 2022

- Coded a rules-based method for recommendations which was put into production.
- Proposed and built and innovative graph ML method that can use product attributes as well as web traffic data. This was important because it addressed the issue of new products which have no history of view data.

Python and SQL Code Reviewer   @ **PNC Bank**   Oct 2019 - Nov 2021

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.

VP and Lead Analyst   @ **Acadian Asset Management**   Feb 2013 - Mar 2018

- 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 it's effects on returns. The work resulted in re-estimation of apriori 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.

Strategic and Technical Lead   @ **Enter The Data**   Feb 2012 - Feb 2013

My own brand for Data Science and Computer Science consulting
Worked with clients to understand their business needs and translate them into analytic/data science solutions using R.

- Time series exploratory analysis and prediction.
- To identify strategies that retain customers, estimated and analyzed of customer retention across markets.
- To help optimize inventory and sales around extreme events, estimated the effects of weather on sales.
- Worked with an HR company to improve their applicant matching by clustering employee types.
- To assess and optimize marketing spend, estimated the value of marketing campaigns.
- Python/SQL code review for a mid-sized bank.
- Python coding for a large bank.

VP and Analytic and Visualization Lead   @ **State Street Associates**   Aug 2007 - Feb 2012

State Street Associates is the research arm of State Street Corporation's trading business.
- 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.

VP and Analytic Lead   @ **Bank of America**   Oct 2001 - Aug 2007

- Developed tools to analyze differences in rate 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
University Education

Ph.D.	Information and Computer Science	Georgia Institute of Technology
B.S.	Computer Science	University of Georgia

Continuing Education Certificates

Artificial Intelligence Professional Program	Stanford
Managing Big Data	MIT
Quantitative Finance - Math Track	Carnegie Mellon
Quantitative Methods in Finance	Stanford