

Contact

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Top Skills

Qualitative Research
Neo4j
Cypher Query Language

Certifications

Data Science Career Track
Tensorflow Data and Deployment
SAS for R Users
Kx Introductory Workshop
Neo4j Graph Data Science
Fundamentals

John Rizcallah

Quantitative Researcher | Data Scientist | Machine Learning
Specialist | Statistician | Communicator
Denver, Colorado, United States

Summary

Curiosity may have killed the cat, but in this case it makes the man. I am passionate about finding answers, and about asking questions. The harder the questions, the better. I love researching new topics, exploring new areas, and connecting my personal experience with the matter at hand.

I remember the exact moment I decided to change my major to mathematics. I was reading an article that said that Actuaries are among the happiest people in their jobs. On beanactuary.org, I found a practice exam in which there was a triple integral. It seemed so hard... I changed my major to mathematics immediately. Several years later, I passed the first two actuarial exams (Probability and Financial Mathematics). It was the challenge of that practice test that drove me toward who I am today. I love a challenge.

In college, this pushed me to strive for more and more expertise, choosing complex projects and delivering exceptional work. I wound my way through several majors at several universities before finding my way to mathematics, statistics, and machine learning. My time spent studying psychology, music, emergency medicine, finance, and philosophy has been tremendously beneficial; it allows me to see interactions between theoretical mathematics and the real world.

For my master's thesis, I used my understanding of economics in tandem with my expertise in Bayesian statistics to implement a data-driven, semi-supervised method for stamping bubbles in foreign exchange rates. I also used my understanding of quantitative trading to devise and backtest several trading strategies based on the bubble-stamping method. I programmed the particle filter and backtest in R. I wrote my thesis in R Markdown, too.

Toward the end of grad school, I joined Springboard to round out my theoretical education with the real-world skills data scientists

use every day. In the Springboard program, I learned Python, SQL, NLP. More importantly, I learned to tell stories and make recommendations using data. That's how data affects lives and businesses.

In my previous work as a teacher, salesman, and musician, I always knew that the best part was talking to strangers. Speaking and listening to others are deeply important skills. As much as I love asking and answering questions, doing research, devising and implementing models, I think there would be something missing if I never got to share them.

Experience

Kalibri Labs

Data Scientist

July 2022 - Present (1 year 9 months)

Maintain and enhance production algorithms; performing statistical and business research when necessary.

Projects completed:

- Reduced running time of the Optimization algorithm by up to 80%
- Designed and coded an algorithm that leverages the Google API to deduplicate low-quality string data into fuzzy groups, then map those groups to specific corporate names with 93% accuracy in both the deduplication and mapping steps
- Increased speed, efficiency, and security of a production algorithm, decreasing execution time by approximately 20%
- Completely overhauled the unit testing process, writing detailed unit tests for over 100 functions
- Researched production algorithm inputs/outputs, translating into business logic to make the algorithm explainable to clients
- Devised, documented, and implemented* an entirely new, semi-automated hyperparameter tuning system
- Implemented* a client health (customer churn) model using Salesforce data to estimate the likelihood of user churn; automating a process that took ~70 hours per month and making it data-driven

*In progress

Springboard

Data Science Fellowship

September 2020 - March 2021 (7 months)

To be completed by March, 2021:

- Fulfill 550+ hours of the hands-on data science training
- Complete 2 in-depth capstone projects under the personal guidance of an experience Data Science Mentor
- Master skills in Python, SQL, data analysis, data visualization, hypothesis testing, and machine learning

Ensemble Reinforcement Learning for Futures Trading · Present

- Loaded, cleaned, and prepared price data on 78 futures contracts
- Coded training, validation, and trading environments for use with OpenAI Gym
- Implemented A2C, PPO, and DDPG reinforcement learning algorithms to create three trading models • Ensemble Trading System still in development
- Current Metrics: Sharpe Ratio of 1.006, Annualized Return of 4.5%, Maximum Drawdown of -0.25

Sentiment in Reporting: A data driven analysis of bias in 15 major publications

- Devised a data science workflow with minimal analyst input, thereby removing analyst bias from the results
- Analyzed sentiment in over 140,000 articles using the VADER Lexicon algorithm
- Compared publications by Linear Regression, ANOVA, and Tukey HSD testing
- Explored relationships between publications using Agglomerative Hierarchical Clustering, K-Means Clustering, and DBSCAN
- Research performed in Python. See Projects section for more details.

West Texas A&M University

Graduate Teaching Assistant

August 2019 - May 2020 (10 months)

Canyon, Texas, United States

- Explained complex mathematical techniques in simple terms
- Lectured to classes of 30+ people
- Achieved a pass-ratio over 50% in developmental classes

Amarillo ISD

Substitute Teacher

January 2018 - May 2019 (1 year 5 months)

Amarillo, Texas Area

- Managed Classrooms of 30+ students
- Served in an on-call capacity
- Worked in multiple subject areas

Rock Bottom (band)

Lead Vocalist

May 2016 - January 2019 (2 years 9 months)

Amarillo, Texas

- Sang and played guitar as needed
- Performed for large groups
- Interacted with strangers
- Learned and retained a large number of songs

Surfin' 66 (band)

Lead Vocalist

January 2016 - January 2017 (1 year 1 month)

Amarillo, Texas

Club Z! In-Home Tutoring Services

Mathematics Tutor

January 2016 - August 2016 (8 months)

Amarillo, Texas Area

Independent Contractor

Mathematics Tutor

August 2010 - January 2013 (2 years 6 months)

- Evaluated client needs and expectations
- Trained students to use mathematical logic and methods
- Marketed to potential clients
- Developed personalized lesson plans
- Scheduled tutoring sessions

Education

Springboard

Certification, Data Science · (2020 - 2021)

West Texas A&M University

Master's degree, Mathematics · (2018 - 2020)

West Texas A&M University

Bachelor's Degree, Mathematics · (2015 - 2017)

Amarillo College

Associate's Degree, Mathematics · (2012 - 2015)