

JOHN PATRICK ROACH

Data engineer with multiple patents and an MS in Statistics, hoping to apply my skills towards big data and tech.

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SKILLS

- **Code Languages:** Python 3.8, Bash/Shell, PHP, osascript, C++, Flutter (Dart), Scala, R, Badger
- **AWS:** EC2, S3, Redshift, Athena, RDS, Lambda, Kinesis, ELB, EMR, Neptune, CloudFront, VPC, SNS
- **Web Scraping:** Multiprocess, asynchronous, memory efficient web scraping, API engineering
- **Data Science:** Machine Learning, Classification, Regression, KNN, Neural Networks, NLP
- **Cloud Services:** AWS, Google Cloud Platform, Snowflake
- **Databases:** dgraph, Redshift, NoSQL, MySQL, Postgresql, Redis, Elasticsearch, MongoDB, Apache DRUID
- **Web Development:** React, Next.js, HTML, CSS, Javascript, nginx, Django, Flask
- **Tools:** Spark, Pyspark, Plotly, Dash, Numpy, Pandas, Scikit, Keras, Pytorch, strace, Algolia, Postman, Burp

PATENTS

Oct. 22, 2019	INDIVIDUALIZED CONNECTIVITY BASED REQUEST HANDLING	10455008
Oct. 01, 2019	LOW-LATENCY HIGH-THROUGHPUT SCALABLE DATA CACHING	10432706
Oct. 01, 2019	GEO-PARTITIONED DATA CACHING	10432737
Jun. 05, 2018	DYNAMIC ADVERTISING ROUTING	9992121

EXPERIENCE

02/20 to Today	BetterOptions.io <i>Co-Founder and Director of Engineering</i>	New York, NY
	<ul style="list-style-type: none">• Developed systematic trading screener, execution and portfolio manager for non-linear instruments with an integrated API• Developed a multi-process, asynchronous web-scraping framework in Python3.8 to collect financial data• Built and tested automated personal stock trading systems on top of Robinhood API• Designed and developed a modern database using Dgraph, a cloud-based, horizontally scalable and distributed GraphQL database with a graph backend.• Designed and developed a modern frontend using Flutter, Google's UI toolkit for crafting beautiful, natively compiled applications for mobile, web, and desktop from a single codebase.• Built a Python wrapper for text-mining and sentiment analysis through the StockTwits API	
11/16 to 01/20	EMX Digital <i>Director of Innovations, Software Development, Data Engineer</i>	New York, NY
	<ul style="list-style-type: none">• Worked with EVP of Technology to develop high-frequency, low-latency, distributed online ad exchanges• \$300k+ in revenue and 50-70 billion transactions (rows of data) per day processed through our data pipelines• Worked with a team of data scientists to build machine learning models and products on top of our database• Re-purposed obscure telecom software to handle online ad auctions in under 200ms processing time• Built a custom data streaming service in Bash that ensured zero data loss and sub-second process time at scale• Design and develop ETL processes and Python automations in AWS environment to migrate campaign data from external sources like S3, into different database storages like AWS Redshift, Apache Druid, Athena, Elasticsearch, Redis.• Built and maintained a cloud, partitioned, Redis datastore to hold 2.1 billion rows of cookie data• Top-volume client with AWS, actively engaged in product usage negotiations and meetings with AWS leaders	
8/13 to 10/16	CPXi <i>Director of Media Buying</i>	New York, NY
	<ul style="list-style-type: none">• Managed millions of dollars worth of native advertising campaigns for various owned and operated websites• Optimized the cost to volume ratio for maximum profit using custom built regression models• Generated an average of \$12k profit per day, with some days reaching over \$100k profit	

EDUCATION

2011 to 2012	UNIVERSITY OF NEW ORLEANS <i>Master of Science in Statistics</i>	New Orleans, LA
2006 to 2011	DELTA STATE UNIVERSITY <i>Bachelor of Science in Mathematics</i>	Cleveland, MS

ADDITIONAL PROJECTS

- Certified in FOREX TRADING SECRETS OF THE PROS WITH AMAZON AWS
- Built social network map, interest map, sentiment analysis and geo-map of Twitter data
- Drummer in the band Social Creatures