

BRANDON MORETZ

Quantitative Development

An experienced software engineering professional with a successful track record working in the investment management industry. Grew from individual contributor to successfully managing teams in a hands-on capacity at all previous roles.

Enjoys solving problems, learning and teaching others.

EDUCATION

- Dec '19
|
Mar '18

M.S., Data Science

Northwestern University

Evanston, IL

- Analytics and modeling specialization emphasizing applied statistics and statistical learning methods.
 - Financial engineering and risk management electives.
 - GPA: 4.0.
- Dec '06
|
Aug '04

B.S., Computer Science (minor Mathematics)

Western Carolina University

Cullowhee, NC

- Developed an interactive modeling application using Direct3D to render biometric data captured using WISDOM (Weakly Identifying System for Doorway Monitoring).

PROFESSIONAL EXPERIENCE

- Oct '19
|
Feb '13

Head of Development

MSD Capital, L.P.

New York, NY

Managed the software development team, reporting to Chief Operating Officer.

Analytics Platform

Led development effort on a team of five to build in-house data analytics system.

 - Collaborated with front office users to develop specifications for interactive reporting modules (e.g., attribution, exposure, liquidity, cash availability).
 - Worked with portfolio managers and analysts to build factor-based models and stock screeners with systematic execution and delivery.
 - Developed scalable back-end data architecture that leveraged machine learning server (RevoScaleR) to host and execute internally developed R packages.
 - Ensured 85%+ unit test coverage over all layers of the application with a combination of NUnit, Moq, tSQL-t, and test.that.
 - Implemented a third-party data warehouse solution to integrate core operational systems, reducing end of day NAV/P&L report publish time by 70%.

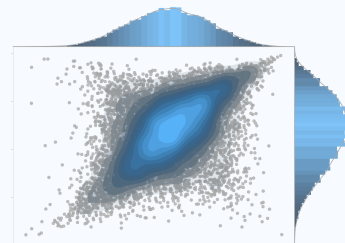
Technology: R, C#, T-SQL, tidyverse, WPF/WCF, Machine Learning Server

Trading & Risk Management




Worked with trading and operations to build a risk management system.

 - Created a foreign exchange (FX) hedging and settlement system to automate intraday rebalance process by codifying manager specified rule sets.
 - Built core hedging model in R to support usage of various hedging metrics (e.g., FMV, MTM, cost, fixed, underlying, custom model) to calculate the target exposure by strategy and generate suggested rebalance transactions by portfolio.
 - Consolidated disperse analyst models used to construct option strategies in Matlab/Excel into an application framework by leveraging QuantLib.
 - Built a real-time profit/loss system to replace an expensive vendor solution that did not fully capture the needs of the business, a savings of six figures annually.
 - Worked with head of trading and operations to build firm counterparty risk report.

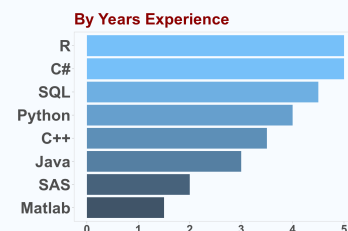
Technology: R, C++, C#, WPF/WCF, ReactiveX, QuantLib, Bloomberg SAPI



CONTACT

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 [Github](#)
 [Stack Overflow](#)
 [Blog](#)
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LANGUAGE SKILLS



Expert knowledge of the Windows Platform SDK, .NET Framework, Windows Presentation / Communication Foundation.

Experienced in statistical analysis, statistical learning models, and optimization methods.

Passion for building scalable, reliable and performant quantitative systems.

Oct '19
|
Feb '13

● **Head of Development**

MSD Capital, L.P. (Cont.)

📍 New York, NY

Research Management

Created a global research repository to accelerate productivity and enhance accessibility.

- Developed a non-intrusive metadata tagging system used to tag and identify research content.
- Used supervised learning methods to automatically tag user generated and external content (e.g., company, filing, write-up, model, earnings call).
- Automated the process of research content parsing for investment indicators (i.e., price targets) and storage in elasticsearch.

Technology: Python, CLI/C++ Interop, NLP, Elasticsearch

Feb '13
|
Jan '12

● **Quantitative Developer**

Promontory Financial Group

📍 Remote

Quantitative software consultant focused on client record auditing systems.

Independent Foreclosure Review

Led development and implementation of workflow application designed to audit fortune 10 client.

- Managed client deliverables with an average development life-cycle of 3 weeks throughout the project.
- Constructed audit system to concurrently support 2,000+ users with an average transaction count of 1.1 million per day.
- Assisted SMEs in converting legacy SAS models to R and validating statistical output.
- The resulting data set was used as the statistical basis for agreed financial settlement to borrowers.

Technology: C#, T-SQL, R, SAS, WPF, Full-text Index

Dec '11
|
Feb '07

● **Senior Developer**

RR Donnelley

📍 Charlotte, NC

Technical architect for financial publishing and content management applications.

RightContent

Led development and architecture of content authoring / workflow processing systems.

- Implemented the full specification for front-page server extensions (version 13.1) to enable native (i.e., Word, Excel) remote content authoring.
- Authored a comprehensive functional language that enabled an expression syntax SMEs used to customize client documents.
- Developed an LL parsing engine and supporting libraries for content transformation and styling.

Technology: C#, T-SQL, ASP.NET, WebDAV



PROFESSIONAL DEVELOPMENT

Jan '15

● **Quantitative Analyst with R**
Certification

📍 DataCamp

Dec '19

● **Mathematics for Machine Learning**
Certification

📍 Imperial College London