

Home Address
140 Prospect Ave Apt 14R
Hackensack, NJ 07601

Kamaraju S. Kusumanchi (Raju)
kamaraju@gmail.com

Phone number:
607-342-5538 (cell)

Summary: Quantitative researcher with expertise in developing alpha generating trading strategies using cash equities. Quantitative developer with expertise in building scalable models in production. Data engineer with experience in building data pipelines using Big Data tools like Hadoop & Spark. Expert in analyzing large data sets including third party vendors such as Bloomberg, Factset, onetick, and trace. Managed live portfolios with proven 3 yr+ track record. Developed backtesting platforms from scratch to do signal research. Extensive knowledge of multi factor risk modeling, portfolio construction and optimization. Expert in traditional advanced mathematics like regression, econometrics, matrix algebra, linear programming. Exposure to machine learning techniques like classification, clustering, similarity, recommendation systems and deep learning.

WORK EXPERIENCE:

Blackrock, Vice President in Liquidity Research Group (Sep 2016-present) - Quantitative Research / Data Engineer

- Develop big data infrastructure with Hadoop and Spark for liquidity research
- Build data pipelines to import market data from various external providers and internal systems, guarantee the correct integration and necessary quality of data coordinating the effort with several teams around the company.
- Made recommendations to the group in choosing the correct research framework after experimenting with both conventional tools (python + sql) and bigdata technologies (pyspark, scala, spark, hdfs, parquet, hiveql, yarn).
- Worked on a new tier classification model for corporate bonds using machine learning techniques such as decision trees. Code is written in Python using pandas, sklearn and statsmodels libraries.

Blackrock, Vice President in FMG Portfolio Risk Modeling (Jan 2016 - Sep 2016) /

Associate in Risk and Quantitative Analysis Group, (2013-2015) - Quantitative Developer

- Built analytics to compute confidence intervals when stress testing portfolios. Team of three.
- Developed a framework to perform impact testing of new risk models. Team of two.
- Infrastructure enhancements to produce fixed income risk models on a T-1 basis. Team of eight.
- Infrastructure enhancements to easily deploy new liquidity and transaction cost models on a client-by-client basis.
- Built analytics to liquidate portfolios using different liquidation strategies - prorata, minimum market impact. Team of two.
- Built analytics to compute days to unwind and transaction cost for fixed income portfolios using market capacity matrix approach. Team of four.
- Automated processes to gather the data for CLO and liquidity factors. Team of four.
- Productionized a new version of MBS risk model and deployed it in Aladdin - BlackRock's proprietary trading and analytics software architecture.
- Made various other enhancements to Blackrock's corporate bond and CDS risk models.

Blackrock, Associate in Scientific Active Equity Group /

Quantitative Investments team (2008-2013) - Quantitative Research, Portfolio Management

- Did research on the Quantitative Factor Rotation strategy (QFR), a statistically driven multi factor timing model. Responsible for idea generation, writing the backtesting platform, conducting parametric studies, improving the model performance, portfolio construction and production implementation. Team of two.
- Co-managed the QFR strategy in two live portfolios: a long only version with \$5 mln seed capital for more than three years, a market neutral version with an average \$28 mln AUM for around two years. Both strategies outperformed the benchmark every year with an ex-post information ratio (IR) around 1.6 and 1.0 resp. Responsible for portfolio rebalancing, trade list generation, PnL tracking, monitoring factor exposures, risk management and compliance. Team of two.
- Did research on the Event Driven Alpha strategy. Signal in the production since mid May 2012. Responsible for idea generation, processing the data, running backtests, aggregation of signals and production signal validation. Team of five.
- One of the two members of the optimization team that provided data and information systems support to the index and enhanced index teams at legacy BlackRock (pre BGI merger). The teams managed \$100 bln, \$8 bln resp., at the peak.

EDUCATIONAL BACKGROUND:

CORNELL UNIVERSITY, College of Engineering, Ithaca, NY

Research Assistant 2006-2008

M.S. in Aerospace Engineering 2006, CGPA: 4.0/4.0

Minors in Mechanical Engineering, Operations Research & Industrial Engineering

IIT MADRAS, Chennai, India

B.Tech in Aerospace Engineering, 1998-2002, CGPA: 9.35/10, rank 1 of 33

COMPUTATIONAL SKILLS:

Python, C++, Scala, Matlab, Octave, SQL, Bash, Perl, Fortran 90/95
Pandas, numpy, scikit-learn, statsmodels, tableau
15 years of Linux (Debian) experience, 4 years of Linux cluster administration
3 years of Unix (Solaris) experience, ported gcc compiler suite to old Solaris machines
subversion, git, cvs, lapack95, fftw3, gsl, petsc,
proficient in Bloomberg terminal and API, Factset, Windows 2000/NT/XP/7, MS Office, excel
Assisted in the maintenance of texmacs package in Debian GNU/Linux distribution

ACADEMIC HONORS:

Recipient of the prestigious "Cornell University Graduate Fellowship" award 2002-2003
Recipient of the HAL prize & Silver medal - for excellent academic record at IITM
Ranked 1 of 33 of Aerospace Engg at IITM during 1998-2002.
Awarded "Certificate of Academic Distinction" for best academic performance in 1999-2000.
Selected to participate in the "XII Indian National Mathematical Olympiad (INMO) 1997" at the national level.

INDUSTRIAL EXPERIENCE:

High Altitude Test Facility, Dept. of Space, Sriharikota, A.P., India 2001 Summer Intern

TEACHING EXPERIENCE:

Fluid Mechanics and Heat Transfer Laboratory (senior level) – Fall 2007 in Cornell
Fluid Mechanics (junior level) – Fall 2006 in Cornell
Mechanical Properties and Performance Laboratory (junior level) – Spring 2005 in Cornell
Fluid Mechanics and Heat Transfer Laboratory (senior level) – Fall 2004 in Cornell
Computational Engineering (freshman level) – Fall 2001 in IIT Madras, India

RECENT COURSEWORK on COURSERA:

The Data Scientist's toolbox - grade 100%
Machine Learning Foundations: A Case Study Approach - grade 100%
Using Databases with Python - grade 100%
Using Python to Access Web Data - grade 100%
Python Data Structures - grade 100%
Programming for Everybody (Getting Started with Python) - grade 100%

Interests:

Chess, poker, amateur badminton player