

Dr. Wajahat Gilani

CONTACT INFORMATION	<p>Rutgers Business School Newark & New Brunswick Rutgers University Office # 5130 100 Rockefeller Road Piscataway, NJ 08854 USA</p> <p>Home Address 21 Mattawang Drive Somerset, NJ 08873 USA</p>	<p><i>E-mail:</i> profgilani79@gmail.com</p> <p><i>Tel:</i> +1-718-702-6780 <i>E-mail:</i> wajgilani@strikevaluation.com</p>
TEACHING INTERESTS	<ul style="list-style-type: none">• Modeling Value Investments in R• Business Analytics Programming in Python• Management Information Systems• Web Data Analytics in Python	
RESEARCH INTERESTS	<ul style="list-style-type: none">• Systematic Value Investing with Big Data• Optimal Stopping in Illiquid Investments• Bayesian Learning• Dynamic Programming• Natural Language Processing	
EDUCATION	<p>Ph.D., 2016, Rutgers University, Newark, NJ, USA.</p> <ul style="list-style-type: none">• Thesis: <i>Optimal Investing in Illiquid and Incomplete Markets</i>• Adviser: Professor Michael N. Katehakis• Area of Study: Management Science and Information Systems <p>M.S., 2004, Rutgers University, Newark, NJ, USA</p> <ul style="list-style-type: none">• Area of Study: Quantitative Finance <p>Bachelors, 2001, Rutgers College, New Brunswick, NJ, USA</p> <ul style="list-style-type: none">• Major: B.S. in Computer Science• Major: B.A. in Economics	
TEACHING EXPERIENCE	<p>Assistant Professor of Professional Practice (Previously Instructor) September 2012 - Present</p> <p>Rutgers University, Department of Management Science and Information Systems, New Brunswick and Newark campuses, New Jersey</p> <ul style="list-style-type: none">• Receptient of the 2017 Rutgers Business School Professor of the Year Award• Lectured Business Research Methods• Lectured Management Information Systems• Lectured Information Systems Security• Lectured MBA class Business Analytics Programming in Python• Developed and Lectured the class Investment Modeling in R, including course materials• Developed and Lectured the class Web Data Analytics in Python, including course materials (<i>Pending</i>)• Attended MSIS Brown Bag Seminar• Attended MSIS Department Seminar <p>Director of Data Analytics Labs (D.A.L.) January 2016 - Present</p> <p>Founded the Data Analytics Labs with students to conduct entrepreneurial experiments using techniques learned in the B.A.I.T program</p> <ul style="list-style-type: none">• Lectured at Seminars in the New Brunswick on data and entrepreneurship	

- Lead workshops in New Brunswick on lean business development using the lean canvas framework
- D.A.L. Incubator Independent Study where students launch their own online businesses
 - **www.bellemint.com** An online community for make-up artists. The team is using going to use Instagram API and screenscraping to identify target make-up artists and send them automated messages to get them to join.
 - **www.loftaway.com** A membership based flight app used for people commuting between states, using small regional charter planes. The team is going to use twitter feeds to identify and advertise people that use amtrak trains and Newark airport for business travel between states.

SKILLS

Computer Programming:

- Html, Java, R, VBA, SQL, Python (pandas, numpy, scipy), Matlab, C, Visual C++, Ampl (CPLEX, LP Solvers), SAS, Perl, Scheme, JavaScript, Oracle, Sybase, Unix, and Kornshell

Quantitative Analysis:

- Numerical pricing techniques, multi-tier trees, matrices, iterative methods, R/S analysis, Continuous and finite stochastic simulations, Ampl optimizers, Monte-Carlo Simulations, Dynamic Programming and various time series

Desktop Editing and Productivity Software:

- Microsoft Office, OpenOffice.org, LibreOffice, Corel WordPerfect, Google Docs
- RStudio, Rodeo, Pinegrow, TexStudio

Operating Systems:

- Microsoft Windows family,
- Apple OS X,
- Linux and UNIX

BOOK

[1] (Pending) Working on a formal textbook for Investment Modeling in R

REFEREED
JOURNAL
PUBLICATIONS
PROFESSIONAL
EXPERIENCE

[1] (Pending) Quantifying Competitive Advantage with Big Data in Systematic Value Investing

StrikeValuation, Investment Data Scientist, Princeton, NJ *April 2008 to Present*

- Designed, built, maintained and expanded the hedge-fund database for fundamental research data, investor/accounting data, and market price data in SQL Server using 3NF standards
- Developed a platform for upstream data sourcing and transformation (using C#, stored procedures), and the integration into downstream data from 3rd party APIs (Bloomberg, BackStop, Enfusion), and the development of processing analytics on the accuracy of data processing
- Lead data sourcing projects in collaboration with portfolio managers and researchers, to quantify the impact value of new data on research and models
- Redeveloped legacy code into smaller modules that are easier to update for junior developers and easy to monitor for the analytics teams, the emphasis on a flexible platform that allows for quick updates and experimentation, while maintaing legacy processes
- Build in C# and R, a stock screener for domestic and international stocks using fundamental ratios (ROIC, Earnings Yield, Current Ratios, etc.)
- Developed an R program to calculate cost of capital, for stocks in all the major indices
- Worked on implied volatility program in C# and R, using non-normal distributions

- Built a C# program that connected to a 3rd party API to source fundamental loan data, and combine it with in house proprietary data to run monte-carlo simulations in the hedge-fund's proprietary simulator
- Developed a daily exposure and performance system using SQL Server and MS Reporting services for a multi-strategy hedge fund
- Design and developed an alpha generation tool in Java, that utilized Earning Power Value and price volatility, to generate and backtest trading ideas

Citigroup, FX Derivatives Quantitative Analyst, New York, NY *July 2007 to April 2008*

- Purchaser Price Parity modeling, testing for reversion trends, auto-correlation
- Emerging market Early Warning System, constant monitoring of macroeconomic variables to ensure no outlier events are taking shape
- Time-series analysis, stationary/non-stationary, distribution analysis
- Short-term momentum strategies/long-term carry strategies
- FX linked commodity valuations based on short-term volatility

Libertas Partners, Quantitative Desk Analyst (CDO/CMBS/ABS), Greenwich, CT *February 2006 to July 2007*

- Developing basic models and simulations for pricing different HY bond strategies and CDO's
- CMBS DSCR analysis
- CDO OC/IC ratio analysis, coverage test analysis (geography, property type, etc)
- Collateral analysis (technical & fundamental), includes traditional bonds, airplanes, shipping containers, medical technology, etc.
- CDO and ABS cash-flow forecasts based on historical and quantitative analysis
- Track and measure industry standards and trends in regard to structuring, collateral, and spreads
- Extensive use of Intex (desktop & web)

JP Morgan & Chase, Quantitative Credit Research Analyst, Iselin, NJ *February 2005 to February 2006*

- Designed and implemented valuation score-cards in C++ signaling MSA's that are excessively high in value and in turn, advising short-term to long-term changes in loan policies in those branches operating within those MSA's. Utilized explicit finite matrices to evaluate values.
- Wrote various VBA applications for weekly/monthly reporting, ranging from market analysis to portfolio evaluation, utilizing VBA and Excel functions in various macros
- Prepared summary and analysis reports on various products and their relative performances for upper management and their expected performances based on continuous normally distributed stochastic processes.
- Developed benchmarks, based on relevant factors, to measure relative performance of real estate portfolios. In designing benchmarks, used Ampl and LP solver optimization to design hybrid product benchmarks.
- Market analysis and commentary on the economy and relevant products for upper management and horizontal teams utilizing SAS statistical and reporting functions.
- Worked with product development testing and analyzing new products probability and scope of profitability by giving expected returns based on historical data as well as simulations done using binomial/trinomial trees.

Merrill Lynch Investment Managers, Junior Quantitative Analyst/Investment Technology Analyst, Princeton, NJ *August 2001 to February 2005*

- Developed and tested Genetic Programming Simulation utilizing Visual C++ for Japanese Equity factors analysis. Genetic Programming is the next step beyond ARCH and

GARCH simulations, but nonparametric, and a step behind Neural Networks. The computer randomly generates combinations of factors and back tests the factors against various time frames of historical data. The result showed overall which factors statistically did better than others and within various time periods (the Asian Market crisis) how certain factors performed.

- Developed/Supported traders VBA/Excel applications. Ranged from redesigning to troubleshooting various subs and functions, as well as programming of 3rd party tools such as Bloomberg's blp functionality
- Developed volatility analysis excel sheet that pulled in securities held via ado call to Oracle database and historical data via Bloomberg, and wrote a GARCH sub that performed volatility analysis on securities for trading purposes
- Developed Asset Allocation Model for the FDP Series of diversified investment products. The Model utilized non-linear/linear optimizers, efficient frontiers, and volatility analysis. It is currently used as part of the investment decision-making process for Asset Allocation. Developed a Java GUI Front end that sat on top of Java classes and Ampl in combination with the CPLEX solver that would optimize combinations of various chosen assets to produce efficient frontiers and optimized portfolios.
- Performed VBA development/support for traders and portfolio managers, ranging from single to multiple sheets interacting with 3rd party tools (Bloomberg, factset).
- Monitored emerging market total foreign exchange risk within portfolios, to assist Senior Quantitative Analyst in using currency options, futures and forwards hedging against various international currency exposures.
- Performed attribution analyses for the ML Equity Growth funds and credit analysis for emerging market funds, daily and weekly reports that showed which sectors were performing better and which securities within those sectors were performing the best, and then comparing them with our portfolio selections to show PM's where we were under and over performing.
- Assist FX Manager in financial reporting to both internal and external reporting agencies.
- Back-tested and implemented various trading strategies for Senior Quantitative Analysts and traders, utilizing moving averages, ARCH, and finite stochastic optimizations. Wrote trading strategies in Java and Visual Basic.
- Designed and implanted Black-Scholes finite equation and Implicit and Numerical Matrices to triangulate option prices and measure implied volatility, as well as measured and reports all the "Greeks" for the Capital & Investments Fund which took positions in equity options. Wrote this in Visual C++ and created an executable.
- Implemented 3 Phase FCFE cash flow model into a web application including analytical and historical data, utilizing j2ee, EJB, and oracle back-end
- Developed business alert system database and web front-end for measurement against benchmarks and account rules, utilizing j2ee, xml, and an oracle back-end
- Created securities & accounts portal for fixed income investment managers utilizing 3rd party software, Plumtree, j2ee, and an oracle back-end
- Developed equity research web application which included FactSet market data, j2ee, EJB, queues, and an oracle back-end

CITIZENSHIP

US Citizen.