David Ma

djma@uwaterloo.ca — 917.873.3692

About Me

Professional Interests	Predictive analytics, data visualization, financial economics
Technologies	C++, Java, Python/PANDAS, Groovy, Matlab, R, SQL, Unix, Git/SVN, Vim, LaTeX
Languages	French (Native), Cantonese (social)
Interests	Fencing, rock climbing, skiing, bughouse, weiqi, wine, typography, linguistics, bitcoin
Legal Status	Canadian Citizen on H1B visa. TN visa also possible. Potential one year non-compete.

Employment

Two Sigma Investments, LLC

Statistical Quantitative Research, Vice President — New York City, NY (2016–)

Statistical Quantitative Research, Analyst — New York City, NY (2012–2015)

- Model global equity price movements with full stack ownership: idea generation, data acquisition and vetting, statistical modelling, production quality software implementation of trading strategy, monitoring and risk management with portfolio level considerations. Research topic areas include corporate actions, SEC filings, and technical indicators.
- Lead and develop a new research line for Two Sigma. Plan long-term vision, coordinate data acquisition, building technological infrastructure. Conducted new alpha research, and allowed secondary cross-team analyses.
- Create, share, contribute, and support tools to facilitate the research lifecycle.
- Onboarded and co-managed a summer research intern

Education

University of Waterloo

Bachelor of Mathematics, summa cum laude — Waterloo, ON (2008–2012)

- NSERC Alexander Graham Bell Master's Canada Graduate Scholarship (declined), Ontario Graduate Scholarship (declined), University of Waterloo President's Graduate Scholarship (declined)
- President's Scholarship, Rene Descartes Scholarship
- Top 10% in the William Lowell Putnam Competition 2008

Personal Projects

- "PointControl.info" 2015 — Built a fencing rating system based on US data. Averages 500 unique users per month with high engagement. Wrote a technical article (link).
- "Bitcoin Trading" 2013-2014 — Traded various technical strategies, cross-exchange arbitrage, and market-making.
- "Binary Options Market Making" (www.intrade.com in 2012, and www.predictious.com 2013-2015) — Built an automated market making algorithm for DOW, S&P, gold, and silver binary option markets.
- "Rotman International Trading Competition 2012" (http://ritc.rotman.utoronto.ca/results12.asp) — Led the 2012 University of Waterloo undergraduate team to finish 5th out of 50 teams.
- "Stay Alert! The Ford Challenge" (www.kaggle.com/stayalert) — Finished 6th out of 180 teams in an open forecasting competition. Presented solution at the International Joint Conference on Neural Networks 2011 in San Jose.
- "Data InSight San Francisco" (www.datainsightsf.com) — People's choice award. A data visualization contest with time constraint of two days and one night, built from scratch.
- Github (www.github.com/djma)

Internships

CPP Investment Board
Portfolio Construction Analyst (Global Tactical Asset Allocation) Toronto, ON (Fall 2011)

- Improved accuracy and reduce running time of the multi-period portfolio optimization scenario tree model
- Reconciliated the portfolio optimization process for different asset classes
- Designed a factor timing strategy

Facebook
Data Scientist (Search Team) Palo Alto, CA (Summer 2011)

- Designed and implemented a confidence coefficient on user's declared profile items (education, work, etc)
- Improved recall and ranking of third degree friend searches by feature engineering
- Extended machine learning algorithms to accomodate ranking-based objectives

TD Securities
Quantitative Financial Analyst (Equity Derivatives Desk) Toronto, ON (Summer 2010)

- Prototyped a model for the implied volatility surface, local volatility surface calibration
- Optimized the B-spline local volatility calibration by using a pre-calibration step; reduced running-time by over 75%
- Designed and developed a tool to deal with non positive-definite correlation matrices; deployed to traders
- Restructured some of the pricer's architecture to allow a FX volatility surface for quanto adjustments