Peter(Yixiao) Zhao

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Education

- **Columbia University** — New York, NY
  Master of Science in Financial Engineering; GPA: 3.7/4.0 — *Aug. 2017 – Dec. 2018*
- **University of Waterloo** — Waterloo, ON
  Bachelor of Science in Actuarial Science; GPA: 3.9/4.0 — *Sep. 2010 – Aug. 2015*

Experience

- **Barclays Investment Bank** — New York, NY
  Associate, Quantitative Analytics, FX and Inflation — *Feb. 2019 - Present*
  - **Trading Desk Support**: Assisting traders in daily FX trades booking/pricing, explaining risk metrics under different market regimes, developing an application for one-shot trades with parallel computing.
  - **Quantitative Development**: Integrating FX trades pricing functions (both PDE and Monte Carlo) on a cross-platform library (mainly in C++), maintaining/developing existing library (Weighted Average Life, Transition Probability, Libor to OIS).
  - **Quantitative Modelling**: Working on Quadratic Gaussian Model (QGM) to derive formulas to price various different inflation derivatives and comparing the results with the production model.
- **Barclays Investment Bank** — New York, NY
  Summer Associate, Quantitative Analytics — *Jul. 2018 - Aug. 2018*
  - **Model Development**: Researched and implemented a Quadratic Gaussian Model (QGM) on inflation derivatives for different year-on-year maturities.
  - **Model Calibration**: Derived common parameters of the Quadratic Gaussian Model to calibrate all the year-on-year market volatility smiles.
- **Dimensional Strategies Consulting** — Toronto, ON
  Software Engineer (Full Stack .Net) — *Sep. 2015 - Jul. 2017*
  - **Development**: Led a team of 4 and developed cloud-based solutions/services in C#, JavaScript and SQL, employing object-oriented programming concepts: encapsulation, inheritance, polymorphism and abstraction.
  - **DevOps**: Researched and developed continuous deployment pipeline, integrating Octopus(deployment), SonarQube(performance) and Git across geographically separated hosting zones on Azure.
  - **BI**: Created reporting systems and multi-dimensional data cubes to analyze and compare profitability results for real estate and mining companies; including but not excluding to: RioCan, Detour Gold.
  - **Consulting**: Created and maintained effective liaison with clients to understand their business needs.
- **Royal Bank of Canada** — Toronto, ON
  Intern, Predictive Modelling and Performance Reporting — *May. 2014 - Dec. 2014*
  - **Model Development and Validation**: Established statistical models to analyze and evaluate marketing campaigns on home equity finance customers.
  - **SAS Reporting**: Used SAS to integrate model monitoring dashboard to make informed decisions.
  - **SAS Automation**: Enhanced the technical Model Validation process with SAS automation

Projects

- **StarCraft II RL Agent**: Trained an A3C (Asynchronous Advantage Actor Critic) agent to play StarCraft II with software API by DeepMind.
- **Bottlitix Report Viewer**: Web application based on .NET and Azure, with the integration of various tools including AngularJS, JQuery, Dapper, MdxClient and BowerJson.
- **Automated Trading with Decision Tree Stock Selection**: Implemented using Quantopian API.

Skills, Activities and Interests

- **Programming**: C/C++/C#, Python, R, .NET, Java, SQL, AngularJS, RectJS, Git
- **Certification**: Machine Learning by Andrew Ng, Neural Networks and Deep Learning, Society of Actuaries (P, FM, MFE), Microsoft Certified Professional with Web Application (Azure, ASP.NET)
- **Interests**: Fitness and nutrition, Financial markets
- **Volunteer**: Coursera Beta Tester