XIN MAN

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DETAILS

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LINKS

Github Profile for Selected Projects

OANDA FX Volatility Prediction Presentation on Fields Workshop

PROFILE

- **2+ year in Machine learning/Deep learning:** Deep learning, NLP (Natural Language Processing), Tensorflow, Keras, scikit-learn
- **2+ year in Data science:** prediction models, data visualization, SQL, MATLAB, R, C++, Python, HTML, CSS, Flask, JavaScript, jQuery, Google Cloud BigQuery, Spark, Hadoop
- **2+ year in Finance Quantitative Modeling**: CFA Level II candidate, FRM Part II candidate, Experience in investment and risk management departments in financial institution.

EMPLOYMENT HISTORY

Quantitative Researcher at QTS Capital Management , Toronto

August 2019 — Present

- Conducted research on feature selection stability (LIME) and applied the methods to improve the existing trading strategies on FX and equity index.
- Implemented algorithm from published paper to compare with the existing method on QTS data set.
- Backtested the proposed multi-asset strategy on historical data.
- Working (in progress) on research paper to present our findings on academic conference.

Data Scientist Intern at Delphia , Toronto

May 2019 — August 2019

- Generated and leveraged (NLP) social media data sets in combination with time series data to fundamentally improve the finance market forecast models to support investment decisions.
- Evaluated the consensus estimates and predictive models' performance on chosen evaluation metrics.
- Conducted research and experiment on market neutral strategy with generated data-driven trading signals.
- Implemented machine learning models to the production platform.

Quantitative Analyst at Ontario Teachers' Pension Plan , Toronto

May 2016 — February 2018

- Worked in Private Equity Risk Modeling team (May 2016 - Sept 2016) and Model Validation Team (Jan 2017 - Feb 2018).
- Validated in-house developed market/credit risk models, derivative valuation models and private equity risk models using various quantitative methods.
- Provided risk assessment to models in production, including model risk assessment, and error potential assessment in accordance to OTPP internal guideline.
- Worked collaboratively with other divisions to address identified material model risks.
- Conducted risk models based on DCF valuation model for infrastructure and long term equity groups.
- Monitored risk limits on various assets and evaluated investment risk for different investment groups (Private Equity, Infrastructure, Real Estate, Natural resource); Prepared investment Risk Committee private market bi-weekly reports.
- Independently completed Sensitivity Testing Analysis models using scenario analysis. Verified shock factors such as interest rate and CPI; Designed stress scenarios based on economic and historical data analysis; Utilized scenario generations to calculate expected tail losses (ETL) and PnLs for market risk.

Liquidity Risk Model Developer Intern at CIBC, Toronto

May 2015 — August 2015

- Analyzed liquidity metrics (LCR, NCCF, LH) and measured the liquidity risk based on OSFI requirements.
- Implemented liquidity risk framework to prepare independent liquidity exposure analysis.
- Enhanced data quality and automated the existing models with SQL, Excel/VBA, and Access, reducing the whole procedure from 2 hours to 20 mins.

EXTRA-CURRICULAR ACTIVITIES

Data Scientist Fellow at InsightData, Toronto

January 2019 — Present

- Attended a data scientist training Bootcamp *[Website link]* and mentored fellows in the following cohort.
- Built data science solution for InsightData industry partners.
- Selected projects conducted in InsightData Bootcamp are listed in next section.

Retail credit scorecard project [Project Link]:

- Built scorecard model on retail customer credit card application.
- Conducted characteristics Analysis (WOE, Information value) on different attributes.
- Built reject inference model with logistic regression and default probability forecast model with logistic regression, bagging and boosting tree-based models.
- Evaluated and compared the prediction and separation power of different models using AUC, Gini coefficient, KS test and rank ordering.
- Aligned the default probability with the score using the model of points double odds.

FX volatility prediction(OANDA) [Project Link]:

- Analyzed the volatility structure for EUR/USD over the course of a 24 hour period.
- Built statistical (Random Forest) and deep learning models (LSTM, GRU) with Python to predict the trend in short-term.
- Presented results on 2019 FIELDs Industrial Problem Solving Workshop and wrote reports for industry partner.

NLP project [Project Link]:

- Developed a natural language processing based model that converts toxic language on social media to non-offensive text.
- Implemented sentiment analysis on web content with hyper parameter tuning and trained Siamese LSTM to measure similarity between social media comments.
- Validated the training and model performance by comparing the perplexity between inputs and outputs.
- Deployed the model as web app on AWS EC2.

EDUCATION

Master of Mathematics , McMaster University, Toronto

September 2015 — April 2016

Financial market, Stochastic calculus, Credit risk modeling, Numerical Method

(Hons) Bachelor of Science in Computational Mathematics, York University, Toronto

September 2012 — April 2015

Algorithm and data structure, C++, Object Oriented Programming, Mathematical statistics.