

# Eric (Binqian) Zeng

40 Memorial Hwy. Apt. 05R, New Rochelle, NY, 10801

+1 929-208-7103 • bz866@nyu.edu; ericzengsearch@gmail.com

https://www.linkedin.com/in/binqian-zeng-257903126/ • https://github.com/bz866

## Work Experience

- Swiss Reinsurance Company Ltd. (Swiss Re)** **Armonk, NY**  
Jan 2019–Present
  - Analytics Specialist/Data Scientist*
  - \* **Catastrophe Loss Impact Estimation**
    - Estimated liabilities of incoming claims after a catastrophe using satellite images, coverage policies, and building footprints geographic data (geographic zonal statistic analysis, CNN, random forest regression, Python, TensorFlow, ArcGIS)
  - \* **Home Renters Insurance Go-to-market Analysis**
    - Identified rental insurance market opportunities in New York state using self-designed opportunity scoring metrics(significant test, linear regression); Visualized in interactive dashboard (Python, JavaScript)
  - \* **Insurance Policies Dataset Management**
    - Aggregated metadata description for big datasets(billions of records); ETL for data preparation(SQL); Backtested hypothesis and correlation(SparkML); Clustering(SparkML)
- King Street Capital Management, L.P.** **New York, NY**  
Jul 2018–Dec 2018
  - Data Science Intern (full-time)*
  - \* **Companies KPI Forecasting Model**
    - Forecasted KPIs of companies using an ensemble model; All base and top learners are SVMs with different constraints
    - Handled collinearity in meta-features by matrix factorization; Reduced overfitting by ridge regularization and noise injection(SQL, Python, Scikit-learn)
  - \* **Analyzing Alpha in Corporate Filings**
    - Categorized companies with high and low information ratio based on corporate filings using RNN and attention mechanism
    - Generated sentence representation with word-embedding that is optimized by financial news
    - Involved statistical features by capturing textual changes over time(Python, NLTK, TensorFlow)
- Crypto Investments** **New York, NY**  
Sep 2017–Dec 2017
  - Machine Learning Engineer Intern*
  - \* **Event-Driven Forecasting Model for Price of Cryptocurrencies**
    - Web-scraped cryptocurrencies news and trade data by API; Data management for scrapped data(Python, MongoDB)
    - News sentiment analysis by Word2Vec; Event embedding by Open IE; Captured effects of different time spans by CNN

## Technical Skills & Certificates

- **Programming & Scripting Language:** Python, C/C++, Java, Scala, R, Matlab
- **Toolkits, Softwares & Operating Systems:** Tensorflow, Pytorch, Keras, NLTK, Scikit-learn, AWS, Hadoop, Spark, MySQL, MongoDB, Github, Linux/Unix

## Education

- New York University, Courant Institute of Mathematical Sciences** **New York, NY**  
Jan 2019 – Present
  - Mathematics in Finance; part-time graduate program on-going*
  - Courseworks:** Derivative Securities, Operating System(C/C++), Risk and Portfolio Management with Econometrics, Computing in Finance
- New York University, Courant Institute of Mathematical Sciences** **New York, NY**  
Sep 2016 – May 2018
  - M.S Data Science; GPA: 3.3/4.0;*
  - Courseworks:** Machine Learning, Natural Language Processing(Kyunghyun Cho), Deep Learning(Yann LeCun), Statistical and Mathematical Methods, Big Data(Hadoop MapReduce, Spark), Data Science in Quantitative Finance, Advance Python Programming
- Sun Yat-sen University, School of Engineering** **Guangzhou, China**  
Sep 2012 – Jun 2016
  - B.E Theoretical and Applied Mechanics (Fluid Dynamics Focus); GPA: 3.7/4.0*
  - Honor:** Third-class scholarship (three times)
  - Courseworks:** Numerical Methods, Finite element analysis, Ordinary Differential Equations, Fluid Dynamics

## Portfolio

- Operating System Components**
  - \* **Keywords:** C/C++ Programming, Operating System
  - Linker; Process Scheduler(discrete event simulation model); Virtual Memory Management Unit; I/O Scheduler
- Enhanced Seq2Seq Model for News Text Summarization (Capstone Project in NYU)**
  - \* **Keywords:** Python, Pytorch, Bidirectional-LSTM, Attention Mechanism, Pointer Network, Semantic Relevance
  - The Seq2seq text summarization model is a hybrid of extractive and abstractive approaches trained on CNN/Daily Mail news
  - Bi-LSTM encoder with attention mechanism; Pointer network improves the accuracy of words generation and the ability of handling out-of-vocabulary words
  - Involved cosine similarity term between encoded source representation and generated summarization representation into the negative log-likelihood loss function to encourage semantic relevance
- Commodity Trading Position Forecasting Model**
  - \* **Keywords:** Python, Scikit-learn, Commodity Trading Strategy, Matrix Factorization, Regularization, Linear Regression
  - Created a regression model that forecasts the optimal trading positions for oil, sugar, copper, gold, and natural gas futures
  - Estimated covariance models; Explained the variance asset class by top alpha factors; Signal filtering down by SVD