

# Yangfan CUI

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## EDUCATION

### NEW YORK UNIVERSITY

Master of Science in Financial Engineering  
GPA: 3.7/4.0

Brooklyn, NY  
09/2017 – 05/2019

### XI'AN JIAOTONG-LIVERPOOL UNIVERSITY

Bachelor of Science in Financial Mathematics  
GPA: 3.8/4.0 (First Class Honors)

Suzhou, China  
09/2013 – 07/2017

## TECHNICAL SKILLS

- **Skills:** Python (Numpy, Pandas, Matplotlib, Scikit-Learn, Statsmodels, Word2vec, Scipy), R, C++, MySQL, Matlab
- **Algorithm:** Logistic Regression, Linear Regression, Support Vector Machine, Decision Tree, XGBoost, Neural Network, LSTM
- **Risk Management and Asset Pricing**
- **Mathematical Models in Finance**
- **Big data (database manipulation)**

## COURSEWORK HIGHLIGHTS

Machine learning, Stochastic Calculus, Linear Statistical models, Time Series, R in Finance, Big data, Applied Probability

## EXPERIENCE

### BUTTONWOOD NETWORK

*Data Analyst*

New York, NY  
08/2019 – Present

- Crawling information of venture capitals and entrepreneurs such as industrial verticals and round size, then storing those data into databases for daily maintenance.
- Applying NLP algorithms like BERT, LSTM to build a text filter and a text hierarchical clustering so that different investors and entrepreneurs could be listed with similar semantic industrial verticals.

### FOUNDER CIFCO FUTURES

*IT Intern*

Xi'an, China  
07/2017 – 08/2017

- Assisted with writing trading strategy codes in TRADE BLAZER platform.
- Tested strategies and collected the outcomes as well as performance.
- Improved Bollinger band strategy with Karman Filtering embedded.

## RESEARCH / ACADEMIC PROJECTS

### XIAN JIAOTONG-LIVERPOOL UNIVERSITY

*Pricing Temperature-based Weather Derivatives in China*

Suzhou, China  
09/2016 – 05/2017

- Collected open data of five cities' temperature in China
- Applied time series models to capture the seasonality and volatility of temperature series
- Priced temperature-based put and call options with the Monte Carlo Simulation based on the temperature forecasted by selected time series model.

### NEW YORK UNIVERSITY

*Applying the machine learning to predict a mid-price at a given time.*

Brooklyn, NY  
02/2018 – 04/2018

- Conducted 6 different methods including SVM, Neural Network, logistic regression, etc., to predict.
- Used rolling windows technique to predict 0.5, 1, 5, 10, 30 seconds forward.
- Made long or short decision based on predicted mid-price then compared with the actual price to calculate return.
- Evaluated each method by measuring their performance.

### NEW YORK UNIVERSITY

*Reinforcement Learning for Trading VIX ETNs.*

Brooklyn, NY  
12/2018 – 05/2019

- Deduced the relationship between returns of ETNs and VIX futures contracts.
- Applied Vector AR model to reconstruct constant maturity futures and roll yields.
- Constructed a reinforcement learning environment by determining states, rewards and actions.
- Used Q-Learning algorithm to find the optimal strategy (action) given each market roll yield.

## HONORS

- **Scholarship**, NYU Tandon school of Engineering, 2017-2018, 2018-2019
- **Progression Scholarship – University Academic Achievement Award**, Xi'an Jiaotong-Liverpool University, 2016-2017, 2015-2016
- **National Encourage Scholarship**, 2015-2016