

Sophia (Beidan) Huang

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<https://github.com/huangbeidan/MyMainAchievement> | CFA III

Education

Master of Finance(STEM), Rady School of Management, UC San Diego, GPA: 3.67 12/2018

- **Program Focus:** Advanced Financial Risk Management, Data Science for Finance Using Python, Financial Econometrics/Empirical Methods, Derivatives & Structured Finance, Financial Big Data Analysis
- **Keen interest in Quantitative Discipline:** Self-study online on Java, JavaScript, Data Structure & Algorithm, HTML, CSS, Advanced Machine Learning and Data Science
- **Knowledge & Skills:** Languages (Python, R, SAS, Java, SQL), MatLab(Mathematical and Statistical Analysis), Machine Learning (Regression, Clustering, Random Forest, K-Means, Neural nets, Naïve Bayes), Predictive Modeling and Analytics (R, SAS, Excel, NumPY, Pandas, Tableau, SAS), Big Data (Hadoop), Database (Postgres, SQL Server)

B.S., International Economics, Shanghai University, China, GPA 3.7 06/2017

Joint B.S., International Economics, University of Technology, Sydney (Scholars Exchange Program)

- Scholarship and Awards: Academic Scholarship of Shanghai University (2014, 2015, and 2016); Voted "Excellent Student" of Shanghai University (2014, 2015, and 2016); Excellent Honors, Shanghai City (2017)

Projects

Machine Learning Project: Prediction of Housing Price (Using Python) UC San Diego 3/2018-6/2018

- Built, optimized and quickly deciphered patterns within large quantity of underlying data
- Performed statistical analysis on 80 features to figure out how these factors affect housing prices, and visualize data using correlation matrix heat-map and matplotlib tool
- Imputed and cleaned missing data by feature engineering, and fix "skewed" features
- Construct pipelines to train and deploy models including lasso, elastic net, kernel ridge, gradient boosting, XGBoost and LightGBM regression, create out-of-fold predictions and validate the forecasting results by RMSE

Data Structure & Algorithm Project: Bear Map (Using Java and Maven) UC-Berkeley(online) 7/2018-8/2018

- Designed rastering code that would convert users' query into a pixel-by-pixel image with a string nested array corresponding to the positions to be displayed
- Built graph representation of the contents of XML files, by using a SAX parser to iterate through elements
- Implemented Dijkstra's algorithm and A* search to find shortest paths between given start and destinations

Financial Econometrics and Empirical Finance Project (Using MatLab) UC San Diego 9/2017-11/2017

- Conducted optimization in rolling windows and adjusted the windows size and rebalance frequency to research the optimal estimation and rebalance strategy providing the maximum Sharpe ratio
- Simulated autoregressive process to test if the return of small companies might forecast market returns
- Improved regression upward bias by using Stambaugh equation
- Estimated GARCH (1,1) model to explore the covariance and predictability of realized monthly volatility

Experience

Venture Capital Data Analyst Intern, Shepherd Ventures, San Diego USA 06/2018 - NOW

- Formulate, scrape, implement striped R and Matlab code to automate the process of downloading, extracting and filtering financial data from disparate sources (internal and external)
- Lead the team to design a portfolio management system and initiate a formulated functional spreadsheet to realize Markowitz Mean-Variance Efficient Frontier optimization and visualization
- Develop, test and apply new factors (e.g. Sharpe Ratio/PE ratio) for asset allocation and trading strategy
- Formulate the standardization of strategy back testing (1yr and 3yr), sector analysis (focus on A.I industry) on different investment strategies with live portfolios
- Support streamline and adjust portfolio management processes to suit the team's specific workflow needs
- Key puzzle solver in the team: Help debug on data, software and live strategies;

Investment Banking Analyst Intern, M.F.China Co., Ltd, Shanghai, China 06/2016 - 09/2016

- Analyzed industry research reports, key financial statistics, government fillings, search engines, databases and articles to identify key executive players in technology and medicine
- Formulated innovation strategies and analyzed investment opportunities for private placement
- Developed financial models to project firm's profitability and sustainability