

# SAMUEL H. FUNK

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## EDUCATION

### Washington University in St. Louis

St. Louis, MO

*Bachelor of Arts in Mathematics, Second Major in Finance, Minor in Economics*

May 2017

- Final GPA: 3.7 / 4.0
- Graduated with College Honors
- Notable Coursework: Econometrics, Intermediate Statistics, Calculus of Several Variables, Options and Futures, International Finance, Advanced Financial Management, Financial/Managerial Accounting, Real Analysis

### Chinese University of Hong Kong

Sha Tin, Hong Kong

*BSBA Semester Abroad*

Spring 2016

- Focus: Business and statistics studies with immersion in Chinese culture

## WORK EXPERIENCE

### METIS

Chicago, IL

*Data Scientist*

September 2017 – December 2017

- 12-week, immersive data science bootcamp focused on machine learning and statistical modeling concepts with projects and curriculum based in Python
- Project Highlights
  - **Exploring the Predictive Power of Technical Analysis with Deep Learning:** Built a two-stage deep neural network with Keras to forecast stock price movements. Implemented a custom-built decision tree to identify and classify various technical patterns. The introduction of these patterns and other auxiliary data points improved the model's performance compared to the baseline.
  - **Identifying Financial News Trends with Natural Language Processing:** Leveraged MongoDB with scraped text data via a custom-built financial news API. Applied NLP and dimensionality reduction techniques to derive a distinct set of topics. Visualized the strength of each topic over time in an interactive Flask app.
  - **Classifying Earnings Surprise with S&P 500 Metrics:** Accumulated quarterly financial data for S&P 500 companies with the help of Selenium and PostgreSQL. Utilized a number of classification algorithms including Naïve Bayes, KNN, Logistic Regression, SVM, Decision Trees, and Random Forests to determine which fundamentals and thresholds contribute to the magnitude of earnings surprise.

### NEED/WANT, INC.

St. Louis, MO

*Finance Intern*

June 2016 – August 2016

- Analyzed the company's entire cost structure and applied it to a series of sensitivity analyses that estimated the economic viability of increasing current production and introducing potential business ventures
- Developed and implemented a financial model of the company's warehousing and fulfillment operations culminating in the decision to bring such capabilities in-house
- Created and distributed weekly reports analyzing advertising metrics and calculated a cost per acquisition threshold necessary to increase profitability
- Assisted top-level management with ad hoc analysis and other day-to-day consultancies

## SKILLS

- **Programming Languages:** Python, Unix/Bash, Git/GitHub, JavaScript/HTML/CSS, Stata, Excel
- **Database/Cloud Computing:** PostgreSQL, MongoDB, Hadoop, Spark, AWS
- **Machine Learning:** Linear Regression, Classification, Natural Language Processing, Unsupervised Learning Clustering, Dimensionality Reduction, Artificial Neural Networks
- **Python Libraries:** Pandas, Scikit-learn, NumPy, SciPy, NLTK, spaCy, Matplotlib, Seaborn, Flask, BeautifulSoup, Scrapy, Selenium, Keras