

# Richard Feng

SOFTWARE ENGINEER · DATA ANALYST · UNDERGRADUATE RESEARCHER

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## Education

### University of Wisconsin, Madison

DOUBLE MAJOR: B.S. IN **COMPUTER SCIENCE** AND **STATISTICS**

MINOR: **MATHEMATICS**

Graduation: May 2019

## Skills

- **Experienced:** Python, Java, R
- **Proficient:** SQL, Scala, Julia, C, C++, JavaScript
- Mandarin Chinese - Full working proficiency
- **Technology/Frameworks:** PyTorch, Pandas, NumPy, SciPy, Matplotlib, Scikit-learn, Spark, Kafka, Kubernetes, Docker, AWS

## Experience

### Quad/Graphics

DATA ANALYST INTERN

Sussex, WI

September 2018 - Present

- Forecasting seasonal trends of business operations using time series analysis and optimization (R)
  - Forecasting various sales revenues with only 1-8% mean absolute percentage error
  - Incorporating vast amounts of macroeconomic data as external regressors through data scraping

### UW Database Group (Prof. Theo Rekatsinas)

DATA SCIENCE RESEARCH ASSISTANT

Madison, WI

January 2019 - Present

- Exposure to real life big data and everyday problems data scientists face
- Creating a framework to allow users to easily find the optimal machine learning algorithm for their situation (Python, SQL)

### Target Corporation

SOFTWARE ENGINEERING INTERN (BACK-END)

Minneapolis, MN

June 2018 - August 2018

- Increased reliability of the inventory analysis system by analyzing and processing data pipelines (Scala)
  - Utilized Kafka, PostgreSQL, REST APIs, Docker
- Built infrastructure for robust and scalable system to better handle Spark jobs crashing (Java, Bash)
  - Utilized Kubernetes, Spring Boot, Jenkins, Grafana, Slack API

### UW Scalable Systems Lab (Prof. Victor Zavala)

COMPUTATIONAL RESEARCH ASSISTANT

Madison, WI

January 2018 - December 2018

- Developed data visualizations for a project that creates graph-based models for optimization problems
- Constructed large hypergraphs efficiently in a pseudo-bipartite format and an 0/1 matrix format (Julia)

### Avid Ratings

SOFTWARE DEVELOPMENT INTERN (FULL-STACK)

Madison, WI

May 2017 - August 2017

- Designed and developed GoSurvey page for users to upload confidential forms, handling auth tokens to restrict access (Angular)
- Processed client voicemails into text and created automated responses (Python)

## Data Science Projects

### Feature Selection Analysis (R)

- Reconstructed a European map using no geographical data with only 7 dimensions
- Multivariate analysis to reduce a dataset from 20 dimensions to 7, providing succinct data visualizations along the way
  - Techniques used: Principal Component Analysis, K-means and Hierarchical Clustering, Multidimensional Scaling

### Real-Time Chat Sentiment Analysis (Python)

- Tool for live streams to identify toxic behavior from users
- Efficiently preprocess large amounts of Youtube and Twitch.tv incoming live chat data
- Perform sentiment analysis and outputs a list of users and their overall behavior in chat

### NYC Taxi Cab Big Data Visualization (Python)

- Analyzed how weather affects the number of taxi rides per hour, incorporating 1.1 billion taxi rides
- Produced visualizations to communicate findings, summarizing 120 GB of data

## Personal Projects

### Stock Rank/Forecaster (R, Python, AWS)

- Preprocessed and cleaned large amounts of stock data, extracting key information from large bodies of HTML
- Allows user to search a stock and displays stock information and rankings from various credible sources
- Interactive graphs and charts using statistical models to forecast future stock trends

### AutoCheckout (Javascript, Python, SQL, AWS, S3, Firebase)

- Chrome extension that authenticates users using Firebase, then auto-clicks/auto-fills to quickly purchase item
- Host/update weekly items data on AWS, pulling information from Amazon RDS for PostgreSQL

To see and interact with all projects: [rzfeng.github.io](https://github.com/rzfeng)

## Leadership Experience

**Chess Club UW Co-Founder/President**

**UW Undergraduate Statistics Club Vice President**

**Kappa Eta Kappa Head Publicity Chair**