

Richard Feng

SOFTWARE ENGINEER · DATA ANALYST · UNDERGRADUATE RESEARCHER

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Education

University of Wisconsin, Madison (*Graduation: May 2019*)

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

Key Courses

- Comp Sci 639: Database Management for Data Science
- Statistics 479: Deep Learning
- Comp Sci 577: Algorithms
- Comp Sci 564: Database Management Systems
- Comp Sci 540: Artificial Intelligence

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)

Madison, WI

DATA SCIENCE RESEARCH ASSISTANT

January 2019 - Present

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

Target Corporation

Minneapolis, MN

SOFTWARE ENGINEERING INTERN (BACK-END)

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)

Madison, WI

COMPUTATIONAL RESEARCH ASSISTANT

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

Madison, WI

SOFTWARE DEVELOPMENT INTERN (FULL-STACK)

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 Personal 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

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

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

Personal Projects

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

- Preprocessed and cleaned stock data, quickly 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 (Founder/President) Recruited over 100+ new active members since establishment

Statistics Club (Vice President) Organize tournaments to analyze Kaggle datasets (UW Data Challenge)

Kappa Eta Kappa (Head Publicity Chair) Organize publicity and outreach events to recruit new members