

Kuan-Lin (Gary) Liu

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EDUCATION

New York University

M.S. in Data Science, GPA: 3.56 / 4.0

New York, NY

Expected May 2021

- Related Courses: Natural Language Understanding, Machine Learning, Big Data (Hadoop, Spark, Scala), Database Systems, Introduction to Data Science

National Taipei University

B.B.A. in Statistics and B.A. in Economics, GPA: 3.83 / 4.0

New Taipei, TW

Sept 2014 - Jan 2019

- Dean's List, Fall 2017; Scholarships from Academia Sinica, Summer 2017 and 2018
- Related Courses: Data Mining, Dimension Reduction, Data Structures and Algorithms, Object-oriented Programming, Time Series, Experimental Design, Mathematical Statistics

TECHNICAL SKILLS

Programming

Python, Scala, SQL, R, C++, MATLAB, SAS

Software & Tools

Hadoop, Spark, MySQL, MongoDB, RESTful API, Git, Tableau, HTML, CSS

Packages

PyTorch, Scikit-learn, NLTK, Pandas, NumPy, Matplotlib, TensorFlow, Flask, Dash

SELECTED PROJECTS

Twitter Sentiment Analysis: COVID-19 Outbreak

Present

- Collecting realtime tweets related to COVID-19 using Spark Streaming and stored JSON data into MongoDB
- Analyzing people's reactions and comparing the results between TextBlob and transfer learning on 1.6 million tweets

Predicting Kickstarter Success and Recommending Products from Amazon

Oct 2019 - Dec 2019

- Built machine learning pipeline with Spark's MLlib and BigDL, and visualized patterns with a Tableau dashboard
- Implemented Spark using Scala queries and Spark SQL for faster cleaning JSON files from HDFS
- Recommended similar products on Amazon by Locality-sensitive Hashing and extracted top words by TF-IDF

Predicting NBA Game Outcomes Using Machine Learning

Oct 2019 - Dec 2019

- Improved AUC by 18% with Ridge Logistic Regression and SVM, compared to Decision Tree
- Used Scikit-learn to build machine learning models with blocked time series cross validation
- Cleaned player statistics by Pandas and Numpy, and exploring play-by-play data by Matplotlib and Seaborn

Automatic NBA Game Information Messaging Bot

Sept 2019 - Oct 2019

- Scheduled Python scripts on AWS EC2 and retrieved data from Amazon RDS for MySQL
- Constructed a web dashboard by Dash, Plotly, and HTML with a web scraper (Requests, BeautifulSoup)

PROFESSIONAL EXPERIENCE

Research Center for Humanities and Social Sciences, Academia Sinica

Research Assistant

Taipei, TW

Mar 2018 - July 2018

- Wrangled energy usage data from an economics experiment and visualized abnormal records (dplyr, ggplot2)
- Grouped 300+ rooms by usage habits on panel data (Hierarchical Clustering, Dynamic Time Warping)
- Instructed teammates in machine learning methods and presented data insights using R Markdown
- Extracted extra 10+ factors by scraping meteorological data (RSelenium)

Department of Economics, National Taipei University

Teaching Assistant (Courses: Programming for Data Science)

New Taipei, TW

Sept 2018 - Jan 2019

- Instructed 80+ students in collaborating with Git and R programming data wrangling using real-world data
- Designed an interactive tutorial web app by LearnR and Shiny to assess students' learning progress

Department of Statistics, National Taipei University

Undergraduate Researcher

New Taipei, TW

Dec 2017 - June 2018

- Decreased RMSE by 30% with a baseline SVR model and evaluated dimension reduction techniques (SIR, Isomap)
- Set up R scripts on Google Cloud Platform and communicated with remote servers and partners using TeamViewer