

Project: Image Classification Using Matlab Machine Learning Project: Image Classification Using Matlab Machine Learning Actively seeking a Business Intelligence Software Engineer related full-time role Bellevue, WA Authorized to work in the US for any employer Work Experience Project: Image Classification Using Matlab Machine Learning Carnegie Mellon University - Pittsburgh, PA October 2015 to December 2015 Responsibilities Converted 10,000 images from 10 different classes into raw features using Histogram of Oriented Gradients (HOG) feature generation technique. Reconstructed the HOG features using Principle Component Analysis, preserved 95% of the variance. Trained Na ve Bayes, Logistic Regression, KNN and Random Forest classifiers using the reconstructed features with cross-validation. Achieved the highest classification accuracy of 80.3% with Logistic Regression classifier. Skills Used Machine Learning, Classification, Matlab, PCA Feature Engineering Project: Advanced Business Analytics Product Recommendation Using R Carnegie Mellon University - Pittsburgh, PA September 2015 to October 2015 Responsibilities Applied Association Rules Learning algorithm to over 36,000 transaction records and identified 5 key products which help to boost the sales of other products. Implemented User-Based Collaborative Filtering algorithm to the transaction records. Predicted 5 products which are most likely to be bought by each of the 3000 customers. Identified 50 customers who are most likely to buy certain target products. Skills Used Association Rules Learning, User-Based Product Recommendation, Collaborative Filtering Internship: Android Developer RistCall LLC - Pittsburgh, PA May 2015 to August 2015 Responsibilities Developed the UI and function for nurses to keep track of patients daily activities data on Android watch using Android SDK. Stored the data in the SQLite database and send the data to the server for record and further analysis using socket programming. Held daily meeting with the product manager to ensure the project was on track for the expected completion date. Skills Used Android SDK, SQLite Database Project: Pittsburgh Crime Data Analysis Using Hadoop MapReduce Carnegie Mellon University - Pittsburgh, PA April 2015 to May 2015 Responsibilities Deployed Mapper and Reducer Java files to Hadoop File System in Linux to find crime records of specific types of offense from FBI Part 1 crimes data in Pittsburgh. Grouped the crime records by location and time for further analysis. Skills Used

Map Reduce on Hadoop File Systems Project: Android Application for Movie Synopsis Retrieving Using Java Distributed Systems Carnegie Mellon University - Pittsburgh, PA April 2015 to May 2015 Responsibilities Developed an Android application that prompts user to enter search strings to look for synopsis from movies. Deployed a JEE RESTful web service on Google App Engine to fetch requested information via openmovie API. Connected the web service with Android app and returned user-requested information back to the Android app. Skills Used Android SDK, RESTful web service Project: Python for Data Analytics Predicting IMDb Movies Ratings Using Python Carnegie Mellon University - Pittsburgh, PA March 2015 to May 2015 Responsibilities Developed web scraping of IMDb movies using Python and stored the dataset in Mongo DB. Built Linear Regression and Decision Tree models to predict ratings based on attributes of movie. Skills Used Python, Linear Regression, Decision Tree Project: Applied Data Science Predicting Recipe Likeability with Nutrients and Ingredients Using R Carnegie Mellon University - Pittsburgh, PA March 2015 to April 2015 Ran Random Forest regression with multivariate linear regression models on data from over 58,000 recipes. Applied Random Forest classifiers to the recipes and discovered the key factors determining the high/low-ratings. Discovered the critical role nutrition facts (such as the amount of fat) play in determining the ratings of recipes. Project: Stock Dealing Room System Implementation Using Java RMI Distributed Systems Carnegie Mellon University - Pittsburgh, PA March 2015 to April 2015 Responsibilities Implemented a mock dealing room system which allows stock dealers to log in and see the dynamically updating market prices of the stocks they deal in. Applied Java remote method invocation to handle the communication between dealers and information publishers Skills Used Java RMI Project: REST Pattern Spy Database Control Web Service Using Java Distributed Systems Carnegie Mellon University - Pittsburgh, PA February 2015 to March 2015 Responsibilities Developed a servlet and implemented REST pattern web service for users to add, delete and update spy location information in the Spy Database. Built tightly coupled JAX-WS service with typed parameters and less coupled service with single message argument. Skills Used Java REST API Design Project: Data Mining Designing a Mobile Phone Spam Filter Algorithm Using R Carnegie Mellon University - Pittsburgh, PA January 2015 to

February 2015      Pre-processed the text dataset to remove punctuations and stop words; transformed it into a representation as bag-of-words.      Identified the features that best discriminate between spam and non-spam messages based on TF-IDF and feature selection.      Applied NB, Logistic, SVM, KNN and Random Forest classifiers to the cleaned text data with cross-validation. Found Random Forest classifier to be the best after comparing TPR, FPR, accuracy and precision of each classifier.

Project: Data Warehousing      Constructing an Airline Performance Data Warehouse for OLAP Purpose Carnegie Mellon University - Pittsburgh, PA September 2014 to October 2014      Designed and built a star-schema data warehouse to analyze the performance data of 5 major airlines in over 100 major airports in 9 months. Extracted the raw data using R. Transformed and loaded the data using SQL Server Integration Services (SSIS).      Built an OLAP cube using SQL Server Analysis Services (SSAS) to slice and dice the performance data through several dimensions. Queried the OLAP cube and found answers for certain business performance questions.

Internship: Business Analyst China National Petroleum Corporation Beijing Sales Company - ??? July 2010 to August 2010      Developed a spreadsheet template with advanced Excel functions to record and analyze sales data of 139 gas stations.      Generated sales performance report based on the analytical result to support senior management's decision-making.

Education

Master of Information Systems Management in Information Systems Carnegie Mellon University - Pittsburgh, PA 2015

Master of Science in Policy Economics University of Illinois at Urbana-Champaign - Urbana, IL December 2013

Bachelor of Science in Economics Huazhong University of Science and Technology - Wuhan, CN June 2011

Skills MS Office (7 years), Matlab (2 years), Java (2 years), SQL (2 years), Sql Server (2 years), R (2 years), SAS (2 years), Python (1 year), Tableau (2 years), Android (2 years), Database Management (2 years), Data Mining (2 years), Data Warehousing (2 years), Eclipse (2 years), Html5 (1 year)

Links <http://www.linkedin.com/in/mellamofred>

Certifications/Licenses SAS Certified Base Programmer for SAS 9 January 2014 to Present

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