

Alexis DING

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SKILLS

IT Skills Java; Python, scikit-learn, pandas, Matplotlib; SQL, NoSQL, ETL(SSIS), Tableau, PowerBI; JavaScript, React, Node.js; AWS Glue, Athena, S3; Microsoft Excel

EDUCATION

Northeastern University Seattle, WA
Master of Science, Information Systems - GPA: 4.00/4.00 Sep.2017 - Dec.2019

- Main Courses: Program Structure and Algorithms; Database Management and Database Design; Web Development Tools and Methods; Data Science Engineering Methods and Tools; Business Analysis, etc.

Boston University Boston, MA
Master of Education, TESOL (Teaching English as a Second Language) - GPA: 3.93/4.00

PROFESSIONAL EXPERIENCE

Lead Graduate Teaching Assistant Seattle, WA
Database Management and Database Design May 2019 - present

- Provided support and guidance to 117 students 20 hours/week
 - Collaborated with the professor to monitor and track students' performance
 - Assisted professor with Database design and **SQL** query assignments and quizzes grading
 - Led the TA team to support with the course contents and student inquiries
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PROJECTS

Game of Hearts Fall 2017

- Created a UML class diagram based on the game rules in **OOP** design pattern
- Implemented all the classes, game logics and players' total points calculation in **Java**
- Implemented functions to optimize card playing order to increase players' winning rate

Guess the Word Game Spring 2018

- Designed a single-page web-based guessing word game using **React** components and **npm** modules
- Created an **Express** server to run the web service which selects a secret word from the word list
- Implemented algorithms to find out the secret word efficiently using **JavaScript**, and designed the layout and web style using HTML and CSS

F2E Database Design Fall 2018

- Created an Entity Relationship Diagram using **Microsoft Visio** with crow's foot notation
- Created schemas, tables, views and constraints to make sure each student can only apply once using **Microsoft SQL Server** and **SQL Server Management Studio**
- Created triggers for automatic data updates and encrypted PII data by creating encrypted keys
- Imported dataset from SQL server and generated data analysis reports using **PowerBI**, created visualizations using views showing selected student ratios, bank transactions, and students and donors distribution views

Credit Card Fraud Analysis and Detection Spring 2019

- Performed data preprocessing and feature transformations for features of Time and Amount, added new features which calculated seconds between the time when the transaction occurred and last fraud/ zero amount occurred
- Applied under-sampling and over-sampling approaches for an unbalanced dataset to resample the under-represented classes so that all classes have a similar amount of data
- Fit Logistic Regression models, Random Forest models and Gradient Boosting models using **Python** scikit-learn libraries, finding out **Logistic Regression** models best fit the data with an AUC of 0.979 and a Log Loss of 0.0038
- Predicted credit card fraud for test set using selected models, getting the test set Log Loss of 0.0034

King County House Price Analysis and Prediction Spring 2019

- Performed data cleaning and preprocessing, log transformations for skewed features, outlier elimination and feature encoding for categorical features including Zipcode and Month
 - Applied validation set and forward stepwise selection approaches to select best features and models
 - Fit **Linear Regression** models with selected features using **Python** aligned with **Numpy**, **pandas** and **scikit-learn** libraries, getting the R-squared of 0.854, and RMSE of 0.20
 - Predicted house price for test set using selected features and models, getting the test set RMSE of 0.18
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