Ziyao(Zeil) Ren

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EDUCATION

Georgia Institute of Technology **Atlanta, GA**
M.S. in Computer Science, Specialization in Computer System Expected Dec. 2022
B.S. in Computer Science Aug.2018 - May. 2021

- **GPA:** 3.96/4.0
- **Relevant Courses:** Artificial Intelligence, Database Systems, Computer Organization & Program, Design & Analysis-Algorithm, Perception and Robotics, Objects and Design, Knowledge-Based AI, Machine Learning, System and Networks, Automata and Complexity, Computer Networking, Computer Vision, Mobile Apps and Services, etc.

Emory University **Atlanta, GA**
B.S. in Chemistry, Minor in Mathematics Aug.2015 - May. 2021

SKILLS

- **Programming:** Java, Python, C, JavaScript, HTML, CSS, Assembly Language, SQL
- **Framework, Tools, and Libraries:** PyCharm, IntelliJ, Microsoft Office, Mathematica, MySQL, Firebase, Git, Android Studio, Visual Studio, Node.js, D3, Tableau, React, PyTorch, MongoDB, etc.

EMPLOYMENT

Software Engineer Intern | Studyfind | Atlanta, GA Aug. 2020 – May. 2021

- Built a database using Firebase and performed HTTP requests using Axios library in React for pulling, editing, and displaying information from the database
- Implemented webpages using hooks and Chakra UI components and achieved functions such as user authentication, communication between different users, notifications, and automatic evaluations of users' qualification based on surveys
- Participated in new intern's interview and continuously helped improve the training process by browsing and recommending resources that help trainees understand the materials faster

Undergraduate Researcher | Georgia Institute of Technology | Atlanta, GA Aug. 2020 – Dec. 2020

- Visualized directed acyclic data that contains more than 10,000 data points by using the D3 library
- Improved the UI to allow users to input or output modified datasets by using AJAX

Software Engineer Intern | IBM | Dalian, China Jul. 2019 – Aug. 2019

- Built a chatbot that allows users to ask tourism questions by using jQuery to handle the user input and PHP to record the data
- Implemented an algorithm that processes users' input and returns the optimal answer based on similarity check in the database

PROJECTS

Covid-19 Data Aggregation and Visualization

- Fetched Covid-19 related data from John Hopkins University, New York Times, and 1point3acres, restructured the data into JSON format using Pandas and pushed data into MongoDB Altas using PyMongo
- Connected Tableau with MongoDB Altas using BI connecter, created comparative visualization heatmap and histogram dashboards between different data sources and built the user interface webpages using Flask

Atlanta Theater Database and Movie Score Prediction

- Created a MySQL database of the theaters in Atlanta by drawing the Relational Schema Diagram, loading the given initial data, and implementing the stored procedures
- Used unsupervised learning techniques(eg. PCA, GMM, and K-means) and supervised learning techniques (eg. Random Forest and SVM) to predict the satisfaction scores of movies based on 13 other features using the dataset provided by Kaggle, and reached an accuracy of 0.899 for the SVM model and 0.983 for the Random Forest model

Twitter Keywords Visualization

- Acquired the tweets that are relevant to the keywords from Twitter using the Tweepy and stored the tweets in cloud MongoDB server using the PyMongo library
- Displayed the keywords graph using the Python-Igraph library to help users visualize frequent words that appear with the searched words in recent Twitter posts

Georgia Tech Schedule Helper

- Scraped data about Georgia Tech's course information from Georgia Tech's Oscar and other third party websites using BeatifulSoup library and created a Firebase database that helps authenticate users, stores user information in Real-time database and course-related information in Firestore
- Created a mobile app using Android Studio that allows users to search for courses, build schedules and look for details like course grade distribution and professor ratings, and gradually improved the app's UI and functionality by creating clickable prototypes through Figma, interviewing potential users, and performing Usability testing