LEE SEE CHEN

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EDUCATION

Bachelor of Science in Data Science and Big Data Technologies.

Graduation: June, 2024.
Beijing Institute of Technology. – Beijing, China.

Courses: Data Structure and algorithm, Object-oriented Programming, Java, Python, Web Application Design, C/C++, Big Data Analysis, System Design and Analysis, Database Design and Analysis.

Honor: 2022 "Challenge Cup" Capital University Student Entrepreneurship Plan Competition, Silver Award;
2023 MCM/ICM, Third Prize;

GRADUATION PROJECT

Multi-Level Traffic Routing *2024.03 – 2024.05*

Introduction: The topic of my graduation project is "Design and Implementation of a Multi-Level Transportation Network Path Planning System." The research focuses on proposing a new algorithm to efficiently calculate the shortest path, applied in public transportation for a more personalized travel experience. I independently completed all code, data acquisition, frontend and backend design, and database development.

Data: Data for the project was sourced from GaoDe Maps, Beijing Subway, BJMTR, Beijing Public Transit, 8684.cn, and 12306 using Python, with some data manually collected and organized. After acquisition, the data was cleaned to remove errors and standardized for project consistency.

Database: The project uses MongoDB, a non-relational database, for data storage. The database includes nine collections: Station, Route, Generic, Objects, Transfer, Fee, Distance, StationSchedule, and ObjectSchedule.

Frontend: The frontend is designed using HTML5, CSS3, and jQuery, displaying information about the current station. Users can also plan routes directly through the interface.

Backend: The backend has two parts: a Java/SpringBoot backend for data storage, interactions, and page data retrieval, and a Python/Flask backend for algorithm responses. The frontend sends calculation data to Java, which retrieves details and requests further processing from Python.

PROJECT EXPERIENCE

JFoenix-based media player-- Lumaca *Team Leader*

Description: This project is a team assignment for two people, where I was primarily responsible for designing certain features, implementing the code, and creating the UI. The project uses Java with JFoenix components for the interface and SQLite for the database.

Content: The media player can play common video and audio streams, includes features found in popular players, and adds personalized options such as viewing history. It also supports importing or dragging multiple files for episodic playback.

A Facebook-like site based on SpringBoot – Little Blue Bird *Team Leader*

Description: This project is a team assignment for four people. Roles include one member implementing the Android code, another designing all interfaces, and two working on the web frontend and backend. I served as the team leader, coordinating tasks and primarily handling the frontend and backend code implementation.

Content: The backend is developed with Java and the SpringBoot framework, using MongoDB as the database. The web frontend is designed with HTML5, CSS3, and jQuery, while the Android app is implemented in Kotlin. The project includes CRUD operations for the database and features such as account registration, login, logout, post creation, deletion, liking, and commenting.

C++ LAN chat software based on QT *Team Leader*

Description: This project is developed using the C++ QT module and implements real-time chat functionality for multiple users on the same local area network using sockets. As the team leader in a five-member group, I was primarily responsible for writing core code and coordinating team efforts.

Content: The software consists of a server and at least two clients. Chat messages are transmitted through the server and stored in the server database as well as in the databases of the two chat participants. SQLite is used for data storage.

PROJECT EXPERIENCE

Kotlin Project-- PI *Team Leader*

Description: This project is developed using Kotlin, focusing on applying effects such as blurring and pixelation to images imported by users, with functionality for exporting the modified images.

Content: This is a team assignment for two people, where the other member is responsible for testing features and UI design. I primarily handled coding and designing the algorithms for various image effects.

C++ CGI Program *Personal*

Description: In a computer networking course project, I independently developed a CGI program using C++. This application manually handles the entire process of obtaining and parsing HTTP protocol content, providing HTTP responses based on the parsed data.

Content: The system encompasses all operations, including the manual retrieval of protocols, parsing the protocol data, and handling HTTP responses. Additionally, it implements a system for frontend and backend interaction, allowing seamless communication between the two.

Shopping recommendation system under PYQT5 *Personal*

Description: This project is an individual assignment that recommends items to salespersons based on customers' historical purchases and similar preference histories. The goal is to enhance sales opportunities by providing targeted suggestions tailored to individual customer preferences.

Content: The data used in this project was collected through web scraping and underwent extensive preprocessing to ensure quality and relevance. After gathering the data, I applied various analytical techniques to extract meaningful insights, identifying trends and patterns in customer behavior. These insights were then used to generate recommendations that are more likely to result in sales conversions, helping salespersons make informed decisions.

Medical question answering system based on large language model *Group Member*

Description: This project is a group assignment for four members, where we fine-tuned an open-source large language model. We collected data from various online sources, processed it, and then trained the model to produce results. The project features a simple chat system that allows users to describe their symptoms and receive potential diagnoses based on a large data model.

Content: By leveraging natural language processing, the system analyzes user input and identifies possible symptoms related to their descriptions. The fine-tuning process enhances the model's accuracy in understanding medical terminology and user intent, ultimately providing more relevant and personalized responses. This application aims to assist users in identifying their health concerns and seeking appropriate medical advice.

OTHER PROJECT

RChain Fraud Detection: (*Personal)*

The RChain Fraud Detection project utilizes the RChain blockchain platform to identify and prevent fraudulent activities in transactions. By leveraging RChain's consensus mechanism and smart contracts, the project aims to create a secure and transparent monitoring environment.

CycleGAN for Gender Transformation (Man to Woman): (*Personal)*

The CycleGAN project focuses on using Generative Adversarial Networks (GANs) to transform images of men into women and vice versa. By employing CycleGAN architecture, the project aims to learn the mapping between two domains—male and female images—without the need for paired examples, enabling realistic gender transformations.

SKILL

Programming: Java, Python, C/C++, JavaScript/TypeScript.

Web Development: HTML5, CSS3, jQuery, Springboot, Express.js, RESTful API, Flask.

Data Science: PyTorch, Tensorflow, Scikit-learn, Apache Spark, MapReduce, Matplotlib, Keras, Pandas, NumPy.

Tools & Technologies: Git, Linux, Bash/Shell, YOLO, Docker, Postman, Jupyter Notebook, Selenium.

Graphic Design & Office Productivity: Microsoft Office, Google Workspace, Photoshop, Lightroom, Aliyun.

Additional Concepts: Machine Learning Algorithms, Data Structures and Algorithms.

SELF-EVALUATION

I possess strong learning abilities, enabling me to quickly grasp new skills and knowledge within a short timeframe. Additionally, I perform well under pressure, consistently meeting deadlines for assigned tasks. I value teamwork and excel in effective communication with team members to ensure that we achieve our goals within tight time constraints. These qualities allow me to remain efficient and make a positive contribution in fast-paced work environments.