Programming Skills Overview

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Please note that all text underlined contains a hyperlink to the code in my GitHub repository

Python

Artificial Intelligence Engineer (Full-time Job)

Develop an automatic root cause analysis system combining technology with the insight of engineers to identify the root cause of non-conforming products (Data ETL & Modeling)

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Question Answering Bot

This coursework constructs a question answering system about wealth investment products in the cloud

Terrorists Recognition

This coursework employs multiple tree models to recognize attack planners. This project is my debut in DS and contains a complete procedure of data modeling

Location Recommendation

This coursework constructs three basic recommendation models and then obtains a comprehensive recommendation model

Sentiment-based Quantitative Trading

This coursework builds a sentiment-based quantitative trading model by employing various features and crawler tools

Patent Data Empirical Analysis

This coursework crawls the data from intellectual property official media and makes empirical analysis

Default Prediction

This project is a silver medal solution in Kaggle Competition: American Express Default Prediction, and uses LightGBM as the main model

Soft Skills

Leadership

- Successfully led three teams to complete the programming coursework on time with high quality
- As the class monitor, organized many class meetings and won the highest score at the class cadre review meeting

Teamwork

- Familiar with Agile software development, and used Scrum, an agile development framework, in three programming coursework to develop solutions effectively with teammates

Other Skills

Scala

- Worked as a big data engineer in HSBC Technology China for 6 months, using Scala and Spark to complete data ETL tasks and carrying out Spark performance tuning

R

- Applied R to complete the empirical analysis in my graduation thesis
- Utilized R to finish the homework of the Machine Learning course and the Econometrics course

C++

- Used C++ to complete the homework of the Data Structures and Algorithms course and a corresponding coursework

Java

- Used Java to complete the homework of the Java Programming course and the Blockchain Technology course

Project Show: Machine Learning Coursework

An End-to-end ML Solution Question Answering Bot

This project constructs a question answering chatbot about wealth management products in the cloud, utilizing the technology of knowledge graph and natural language processing.
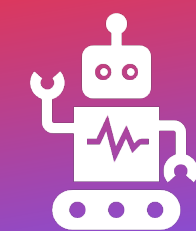
Project Background

To reduce labor costs and improve the customer experience, the wealth management team in HSBC wants to build a question answering system to help their clients quickly get information on wealth management products.

Data Preparation

- Use Python to download public brochure PDF files of wealth management products
- Extract information in the tables from PDF files
- Save information to Neo4j database to build the knowledge graph

Natural Language Processing

- Apply regular expression and semantic analysis to find the name of the products and their needed information from the input question
- Utilize Turing API to chat with clients if their questions are not about products

Front and Back End

- The front end is designed with Vue framework and Element UI component library
- The back end is constructed with Django, connecting MySQL and Neo4j databases