INTELLIGENT SYSTEM DEVELOPMENT

EXERCISE 5

Tuần sau (23/09---26/09) đánh giá điểm

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Exercise 5.1 Predicting, classifying classes based on data with weight, height and jobs:

Step 1 (2d)

- Generate dataset with 2000 persons including height (m), weight (kg), job (30 jobs). Example jobs: doctor, dentist, engineer…
- Based on calculate the Body Mass Index (BMI) of this group of people. The formula to calculate BMI is as follows:
  Divide the weight in kilograms (kg) by the height in meters (m)
  - Divide the answer by the height again
  Using the BMI, you can classify a person as healthy, overweight, or underweight using the following categories:
  - Underweight if BMI < 18.5
  - Overweight if BMI > 25
  - Normal weight if 18.5 <= BMI <= 25
- Using models linear regression and logistic regression to predict weight for certain height and job types.

Step 2 (2d)

- Compare and evaluate
  - Evaluate and show plots of accuracy with metrics MAE, RMSE when comparing Linear Regression and Logistic Regression to predict weight. Show plots in one diagram
  - Show distribution of persons with heights, weights and jobs. Discussion
- Implement interfaces for users entering the height and job, and show weight:
  - GUI
  - Web interface
  - Mobile (Android, iOS)

Step 3 (2d):

- Build deep learning models CNN, RNN with tensorflow (NO KERAS) for predicting weight similar to step 2. Show in the interface to user selecting technique

Step 4:

- Implement a chatbot interface to give health-related recommendations (e.g., weight gain or loss advice) based on predictions.
- Chatbot also gives advices to use kinds of foods w.r.t. fat or thin diseases…

Exercise 5.2

Applying Exercise 1 for predicting examination marks in the previous Exercise for a set of data for 2000 students

Exercise 5.3

Refer to Exercise 3.7 for 2000 students. You demand ChatGPT generate 2000 students with attributes given in Exercise 3.7