2024 /9 /30

21:00 - 23:00

11210CS460200 Group 23 Meeting Minutes

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| Topic | Discussion on Machine Learning Final Project Ideas |
| Place | Discord Voice Chat |
| Agenda | 1. Decide project topic and implementation details 2. Assign a role(task) for each member 3. Create a project timeline |
| In attendance | All present |
| Task Assigned | 游松澤, 曾柏勲: collecting datasets  楊立慈, 賴允中: data visualization  游松澤: researching related works  蕭以勝: designing model architecture |
| Next meeting | Date: 10/7  Time: 9 p.m  Objective: the predictive to be used in the project  Location: Discord Voice Chat |
| Final Project Selection Summary:  **Baseball (MLB) Pitch Type Prediction Using Format Attention**  After comprehensive discussions, we have provisionally chosen "Pitch Type Prediction Using Format Attention" as our final project topic. This decision was based on the availability of a robust dataset from the MLB Statcast system, which provides extensive details including each pitch's release point, type, and trajectory.  What’s next? For the first week, our primary focus will be to explore the Statcast data and any accessible APIs that might be beneficial for our project. We plan to refine the scope of our data analysis by determining (1) which pitchers' data to include and (2) identifying the advanced metrics that will be most effective for our training models.  These initial steps will set the foundation for our project, ensuring we utilize the most relevant and comprehensive data available for predicting pitch types effectively.  Complete meeting records: The meeting initiated with an open brainstorming session, exploring two main directions for our machine learning final project: Baseball Analytics and Quantitative Finance.   1. Baseball Analytics   The discussion on baseball was subdivided into two specific topics within Major League Baseball (MLB):   1. Pitch Type Prediction Using Format Attention   Utilize supervised learning to predict the next pitch type based on historical pitch data.  Employ player's release angle and other relevant metrics to predict the type of pitch. The correct pitch type will serve as the target variable y in our supervised learning model.   1. MLB Player Value Prediction Based on Performance Metrics   Predict a player's value using comprehensive performance data, including advanced defensive and offensive metrics.   1. CPBL pitching data collection using raw video of game   Since CPBL doesn’t collect as much data as MLB, we still want to make a dataset by image recognition for our own country baseball for more advanced data.  II. Quantitative Finance  Utilize two decades of financial data provided by WorldQuant to predict and identify alpha while avoiding overfitting.  Finally, we all agreed to choose “Pitch type prediction using format attention” as our final project topic since it is interesting and have comprehensive datasets.  We didn’t choose to the quantitative Finance because most of us are not familiar with finance. Not only the reason above, we predict that there will be many teams do something like this.  We didn’t choose to do the CPBL raw game video pitching data collection due to the raw dataset are too complicated and really not a easy work to collect them. | |
| A group photo of the discussion session: | |