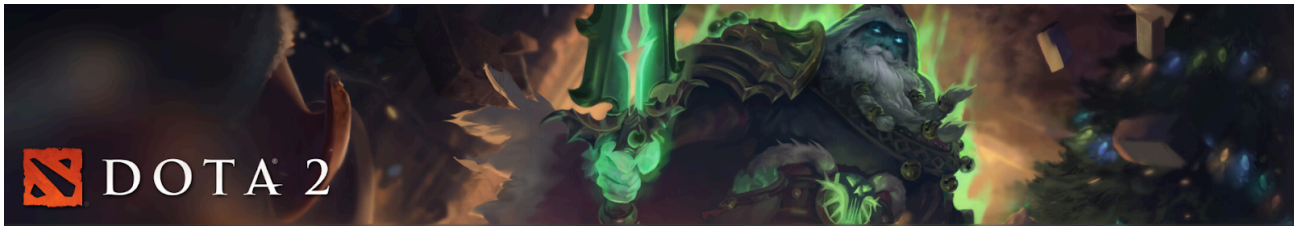

Heroic Insights: Uncovering the Role and Strategy in Dota 2

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1. Project Statement:

Pretext: *Dota 2 (Defense of The Ancients) is one of the world's largest and most competitive esports, known for its deep strategic 5v5 gameplay and intense global tournaments like The International, which boasts record-breaking prize pools. In this team-based game, players select from over 125 unique heroes, each with distinct roles and abilities. Success hinges on crafting the perfect team composition, making hero selection a critical aspect of gameplay. Here is a link to Open AI paper on Dota 2.*

This project aims to do an in depth analysis on Dota2 hero statistics, attributes, lore and also match statistics using data from the OpenDota. By focusing on hero-specific data and match data, we seek to explore key patterns in their ability and adaptability in a game and to explore correlation within them. Understanding these complex hero statistics and game data can gain interesting insight into matchmaking and match outcome.

2. Dataset Description:

- We will use the OpenDota API to pull hero data and match data, which consists of extensive raw data on heroes, match specific data, and all chat.
- There are approximately 125 heroes with 20 - 30 features of which we plan to select the relevant ones.
- The dataset contains rich information about every hero in the game, making it a prime candidate for statistical analysis. We believe focusing on heroes is not only fascinating for game enthusiasts but also highly insightful for identifying trends and making recommendations for team composition strategies.

3. Phase 2 Task:

- We will initially focus on acquiring, cleaning, and analyzing the hero and relevant match data using the OpenDota API.
- **Data Acquisition:**
  - Create a scheduled data ingestion pipeline to fetch data using API and store it in a relevant database.

- **Data Cleaning:**
  - Convert data to a readable and store it in a structured format.
  - Inspect the data for missing or inconsistent values.
  - Get relevant features and ensure it is ready for further steps.

4. Phase 3 Task:

- Perform descriptive analysis on the data collected.
- Feature engineering on relevant columns.
- Apply relevant models to gain insights.
- Visualize the findings and the outcome of the analysis

5. Distribution of Work:

- **Phase 2:**
  - Aditya Hegde: Develop scheduled script to collect data based on the API hour and daily limit and store it.
  - Nikhil Karle: Collect the stored data and make necessary adjustments and further ingest it in the relevant database.
- **Phase 3:**
  - Aditya Hegde : Feature engineering, develop model and training.
  - Nikhil Karle : Find correlations and visualize the findings.

6. Reference:

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- https://youtu.be/m5sjA6W3nPw?feature=shared
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