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COG 118B

COGS 118B Final Project Plans

Team Name: Drop the Mitts

Project Title: Predicting NHL Players' Future Scoring Consistency From Performance Statistics

Project Description:

For my project, Predicting NHL Players' Future Scoring Consistency From Performance Statistics, I plan to develop a machine learning algorithm that predicts a player's future offensive output, mainly the points they score in a 60 minute game, based on their underlying performance metrics. These performance metrics can include goals, assists, time-on-ice (TOI), Corsi, expected goals, hits, blocks, and special teams contributions. Understanding that traditional positions like (center, winger, defense) do not fully capture the specific roles of the player, I will aggregate a dataset combining previous performance metrics mentioned above, and I plan on finding this data from sources such as MoneyPuck. I will perform a comparative analysis by training two distinct Random Forest models using historical data (2010 - 2023 seasons): one that incorporates K-Means clustering archetypes as features and one that does not. I will validate these models against the true data from the 2024 - 2025 season to determine if unsupervised grouping reduces prediction error and better distinguishes sustainable skill from statistical luck. Finally, using the better performing model trained on all available data, I will forecast player performance for the current 2025 - 2026 season, providing projected point totals for both a 30-game span (approximately the current number of games played so far) and a full 82-game season.