

Unlocking the Keys to Tampa Bay Lightning Success

An Advanced Model Interpretability Approach



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Business Problem

Although the lightning have locked themselves firmly into a playoff spot with just 10 games left in the regular season there is some cause for concern

- Poor win % in 1 goal games
- Traditional statistics are often misleading
- Poor win % against top contenders in the conference

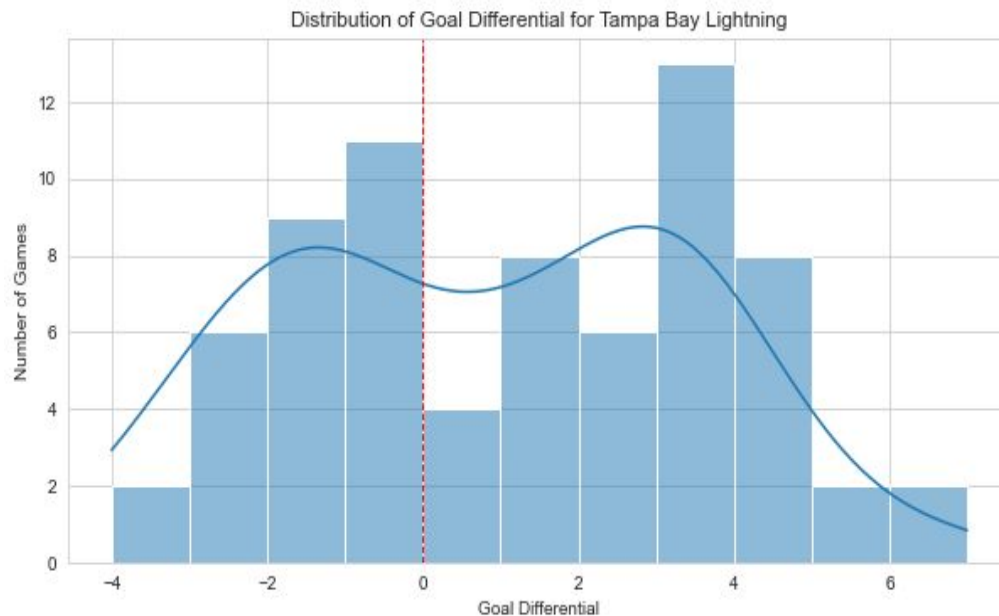
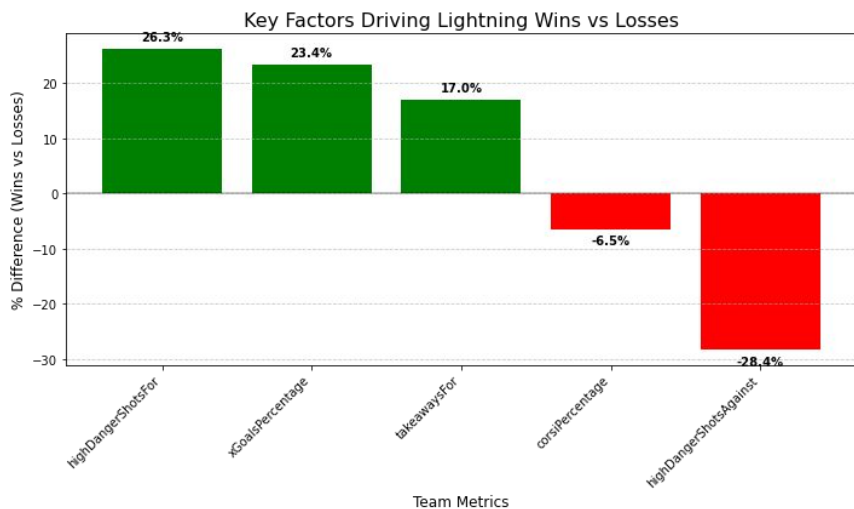
Data & Methodology

- Identify What drives wins
 - These insights can help optimize lineups, player deployment, and in-game tactics to optimize lineups, player deployment, and in-game tactics
- 156 player metrics and 109 team metrics tracked per game
- Built a Random Forest model achieving 87% accuracy in predicting wins

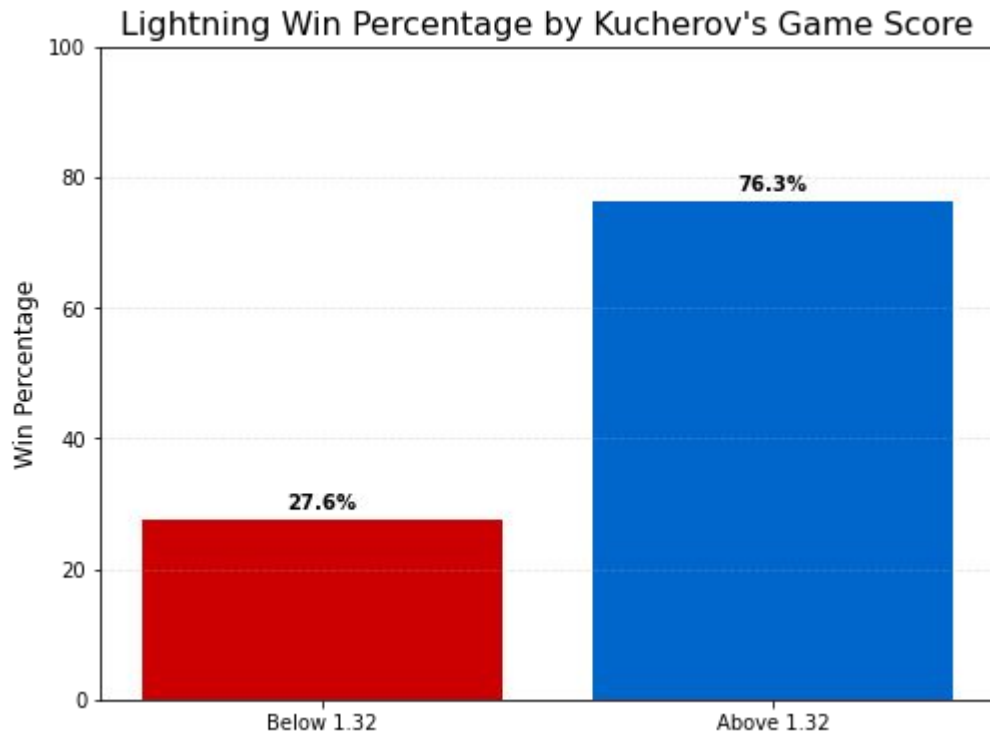
Team Success Factors

1. Shot quality matters more than quantity

2. Takeaways increase by 17% in wins, highlighting the importance of active defensive pressure

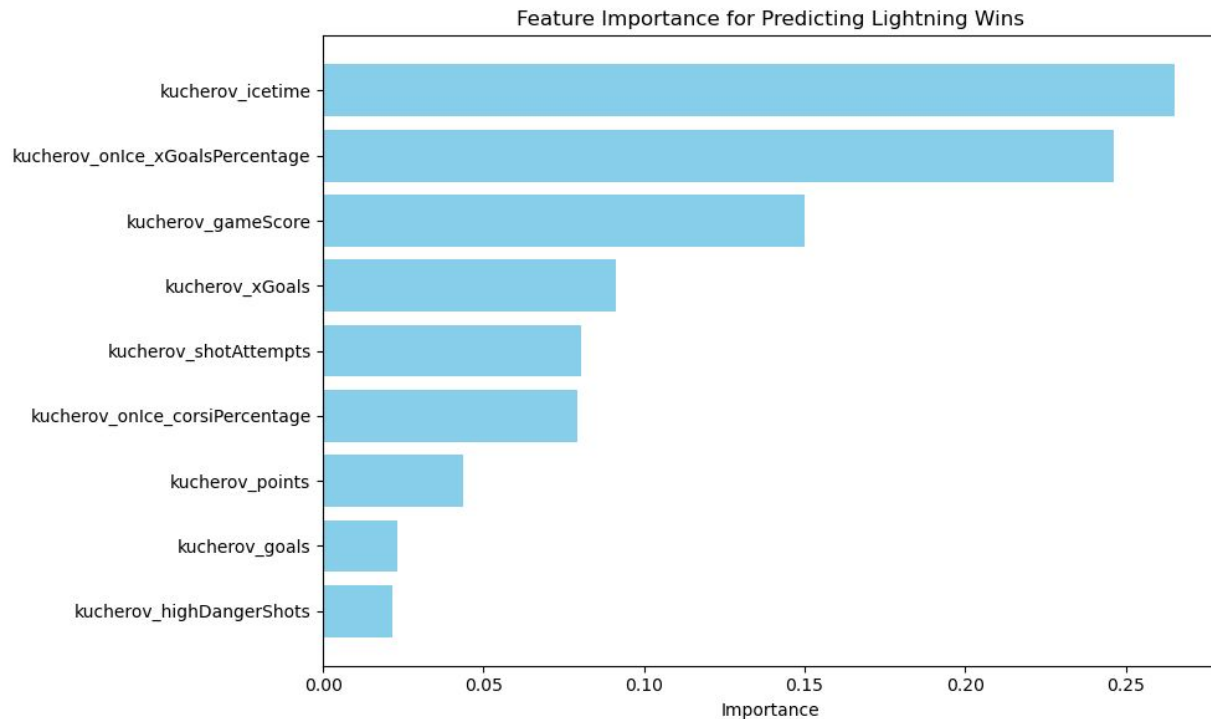


Star Player Impact- The Kucherov Effect

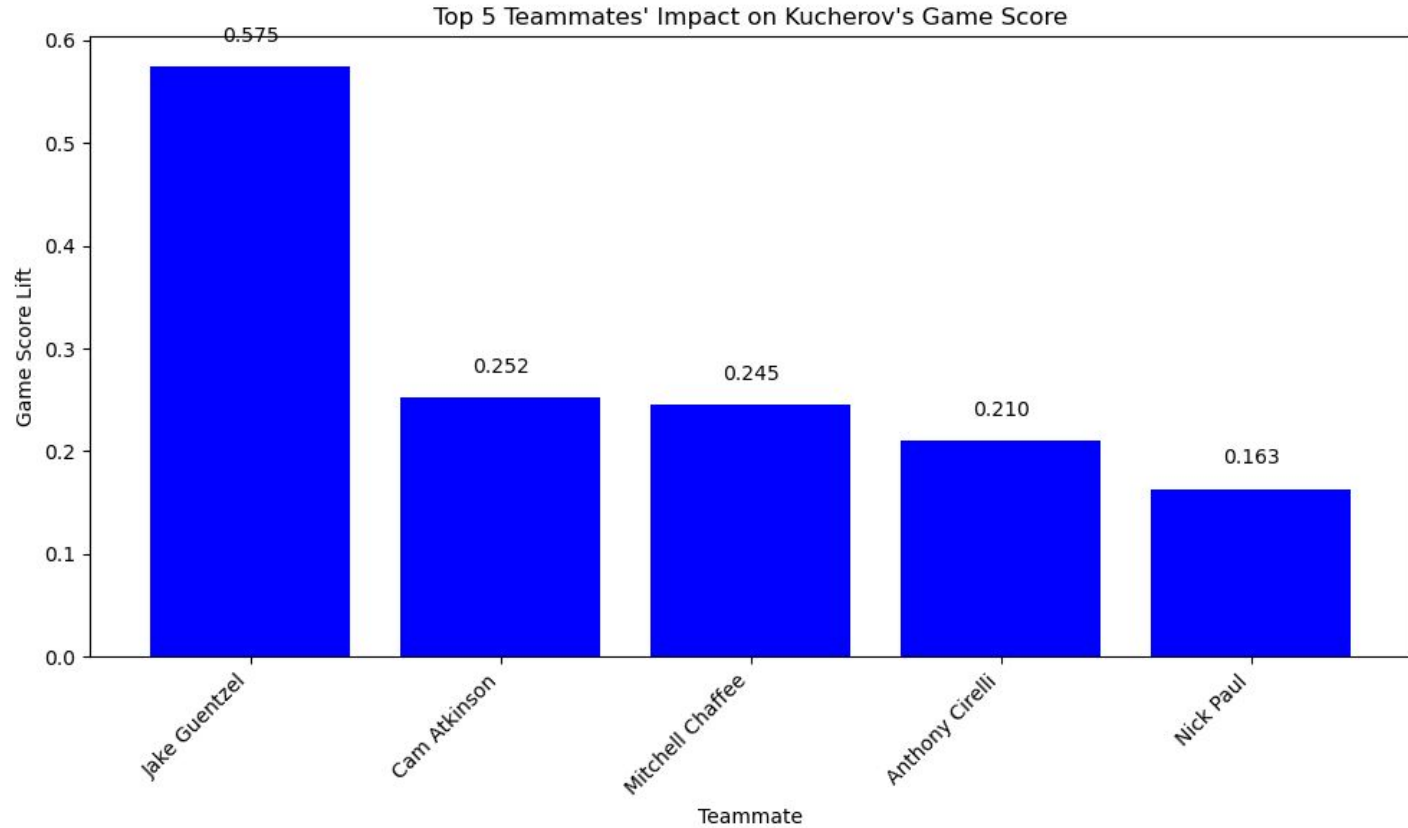


which aspects of Kucherov's performance our model identified as most predictive of Lightning wins

- ice time emerges as the most important feature, accounting for over 26% of the model's predictive power
- The second most important feature is his on-ice expected goals percentage at nearly 25%

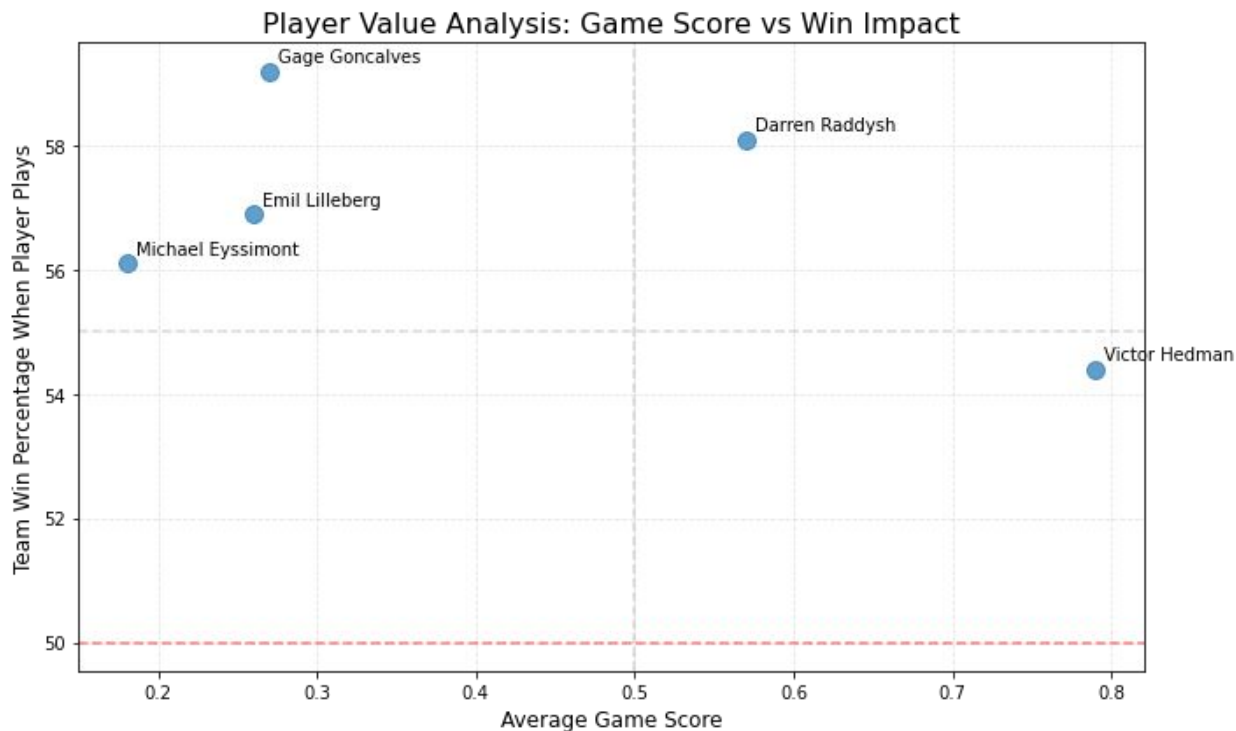


Player Chemistry Analysis



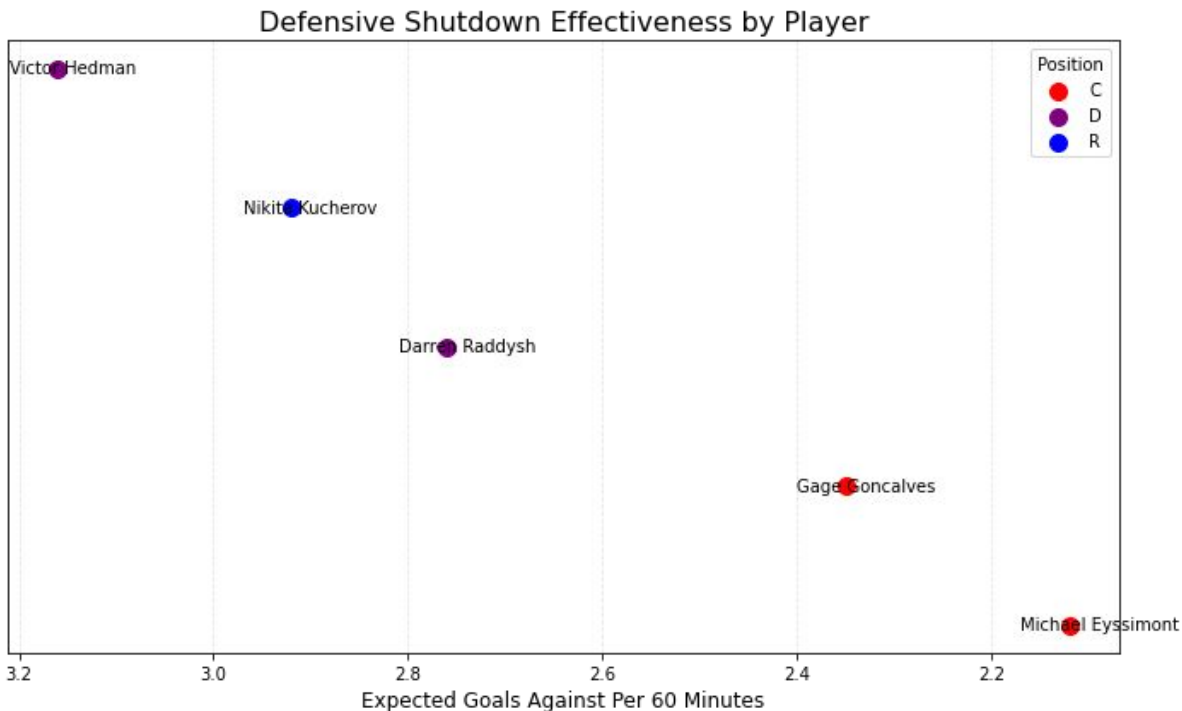
Undervalued Contributors

- Gage Goncalves emerges as the most undervalued player - 59.2% win rate when he plays
- Meanwhile, some established players like Hedman (54.4% win rate) show lower impact than expected



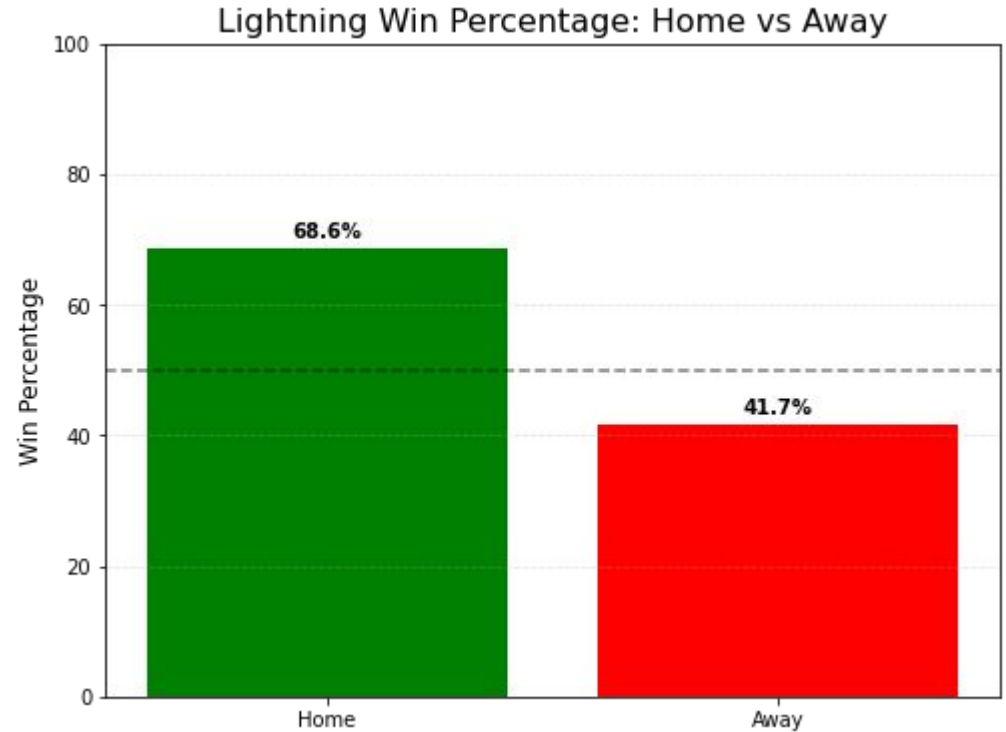
Defensive Specialists

which Lightning players are most effective at suppressing opponent scoring opportunities. The horizontal axis shows expected goals against per 60 minutes - a key metric that combines both shot quantity and quality against. Lower numbers (further right) indicate better defensive performance.

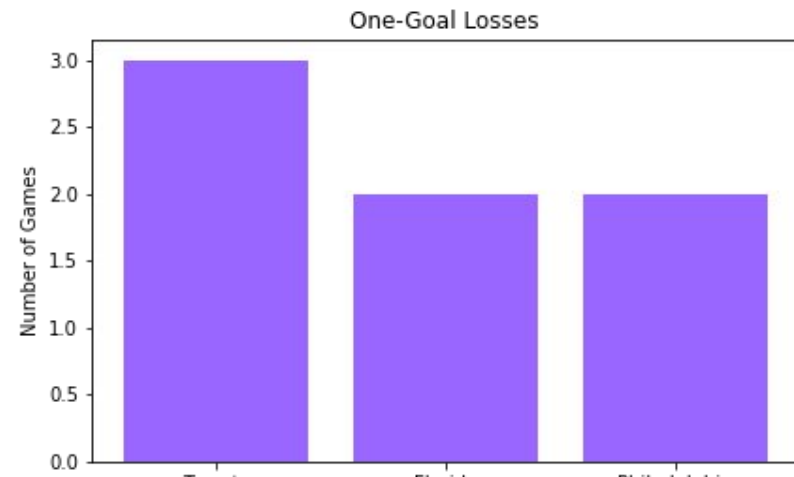
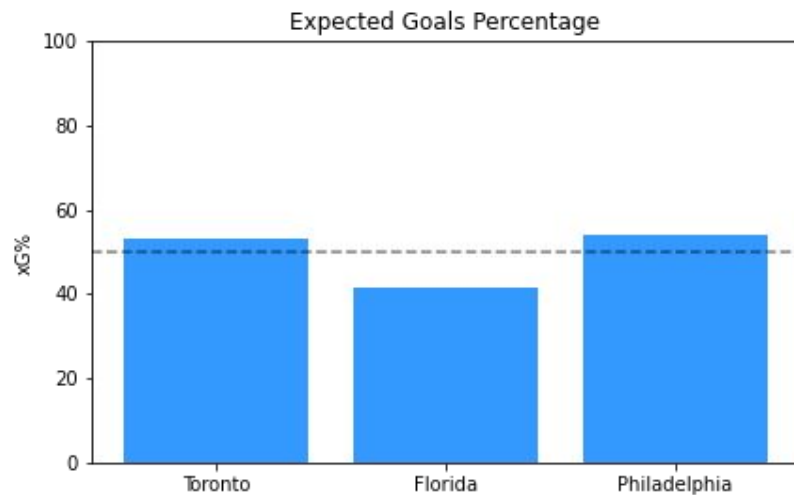
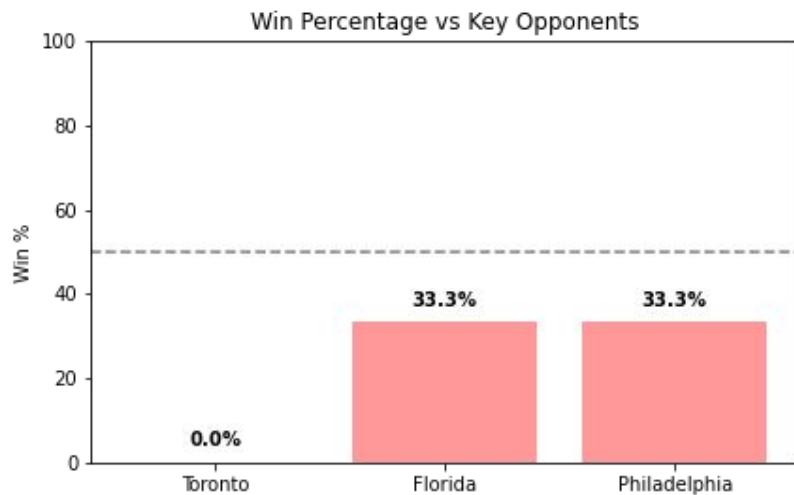


Home vs. Away

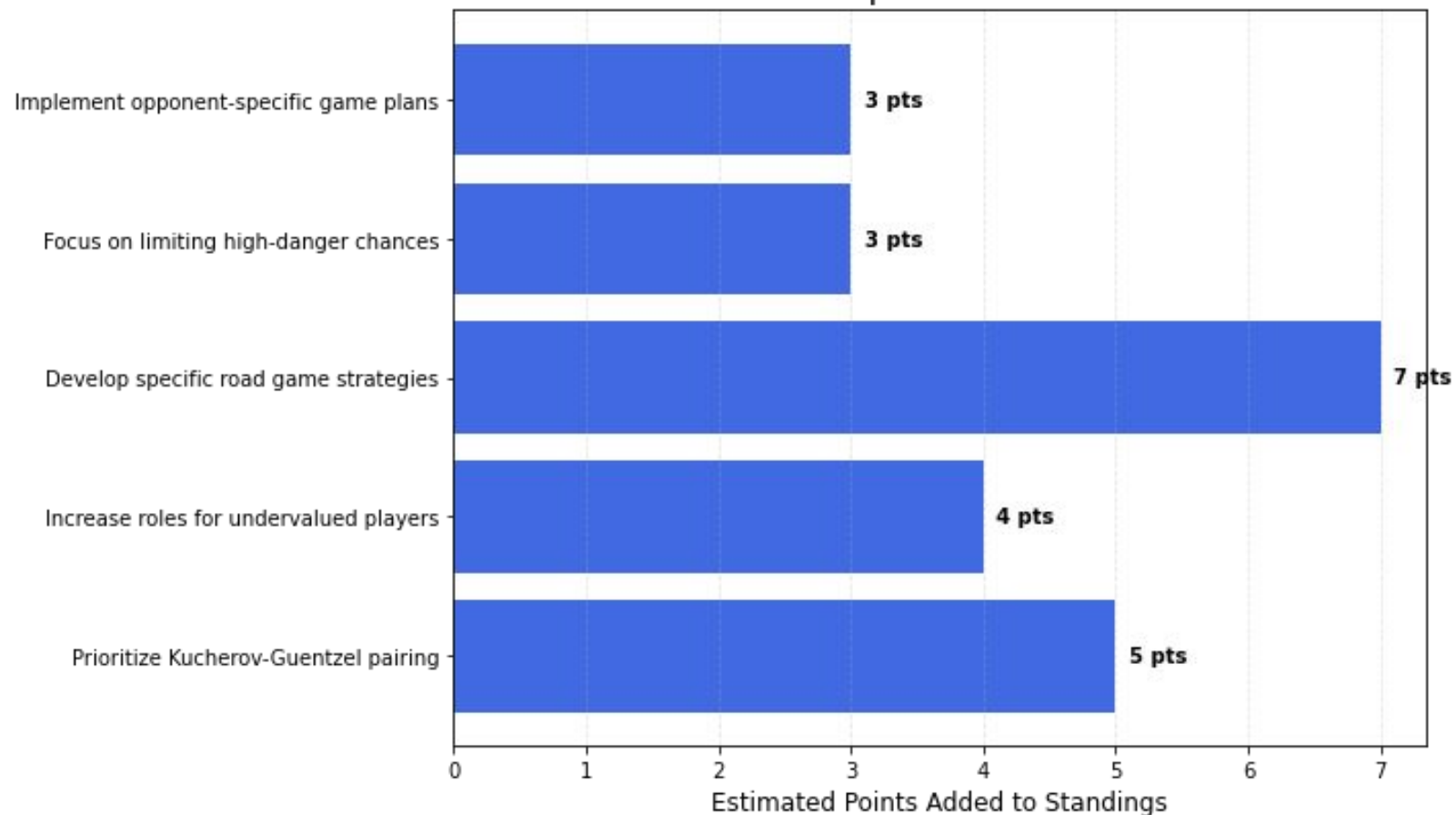
- Increased hotel budget for the playoffs



Opponent-Specific Challenges



Potential Point Impact of Recommendations



Limitations & Future Work

- Sample size of 71 games provides solid insights but could be expanded with historical data
- Future analysis could include special teams performance and goaltender impact
- Additional player tracking data could enhance understanding of positioning effects
- Implementing A/B testing of recommendations would allow measuring real-world impact
- By understanding the 'why' behind wins and losses, we can make more informed decisions