CLASSIFICATION UNIT
OF METIS DSML -
MATT RYAN
2021

PREDICTING THE WIN

LEAGUE OF LEGENDS

OVERVIEW

THE GAME

League of Legends is one of the most popular video games in the world, with a reported monthly active player-base of **~115 million players** as of 2020 and a peak concurrent player-count in Sept. 2021 of over **2 million players**

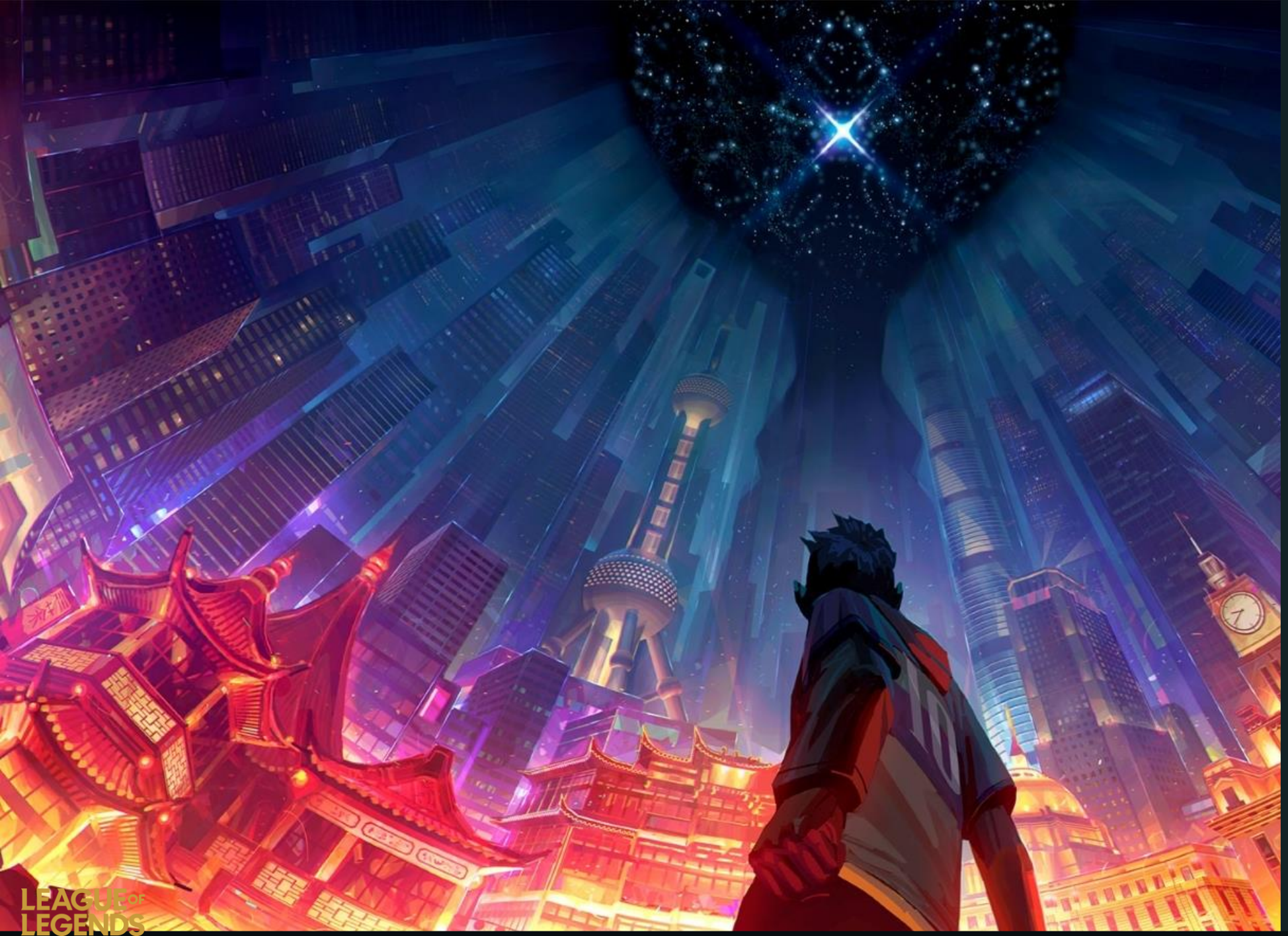
THE SPORT

As an e-sport, League of Legends has shown immense growth over the past decade, with the 2020 League of Legends World Championship finals reaching a peak concurrent viewership of 49.5 million viewers

THE DATA SCIENCE APPLICATION

With traditional sportscast level viewership, we want traditional sportscast professionalism. To strengthen the analytics tools available to the casting team, we want to design an application that predicts the probability that a team will win a game based on the current in-game conditions

METHODOLOGY



DATA

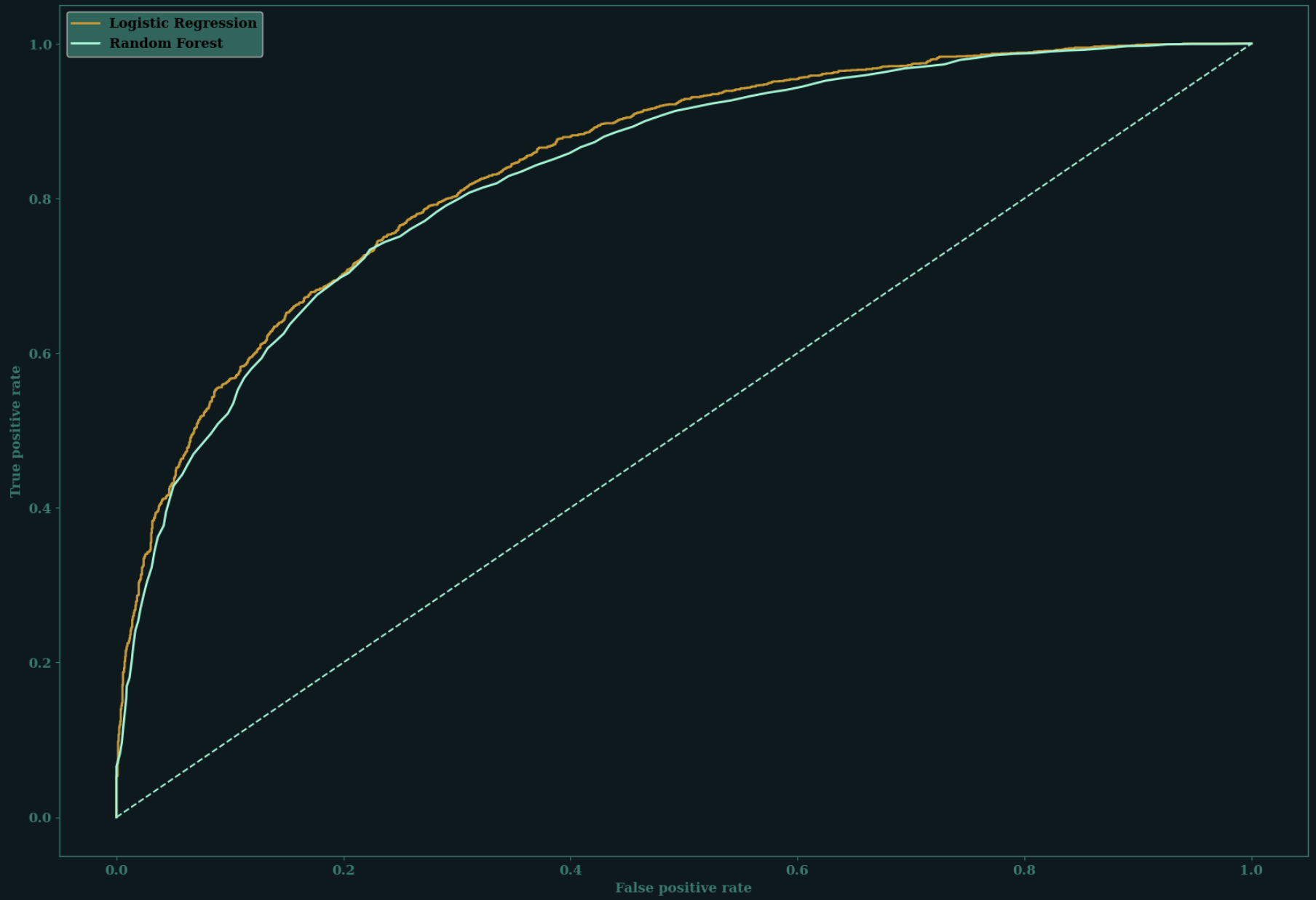
Initial data:

- 11,604 pro games from 2021
- 12 data-points per game
- 138,528 data-points
- 122 columns

After EDA/cleaning:

- 10,538 games
- 2 data-points per game, one from each team's perspective
- 14 features, describing state of game at 15 minutes

ROC Curve



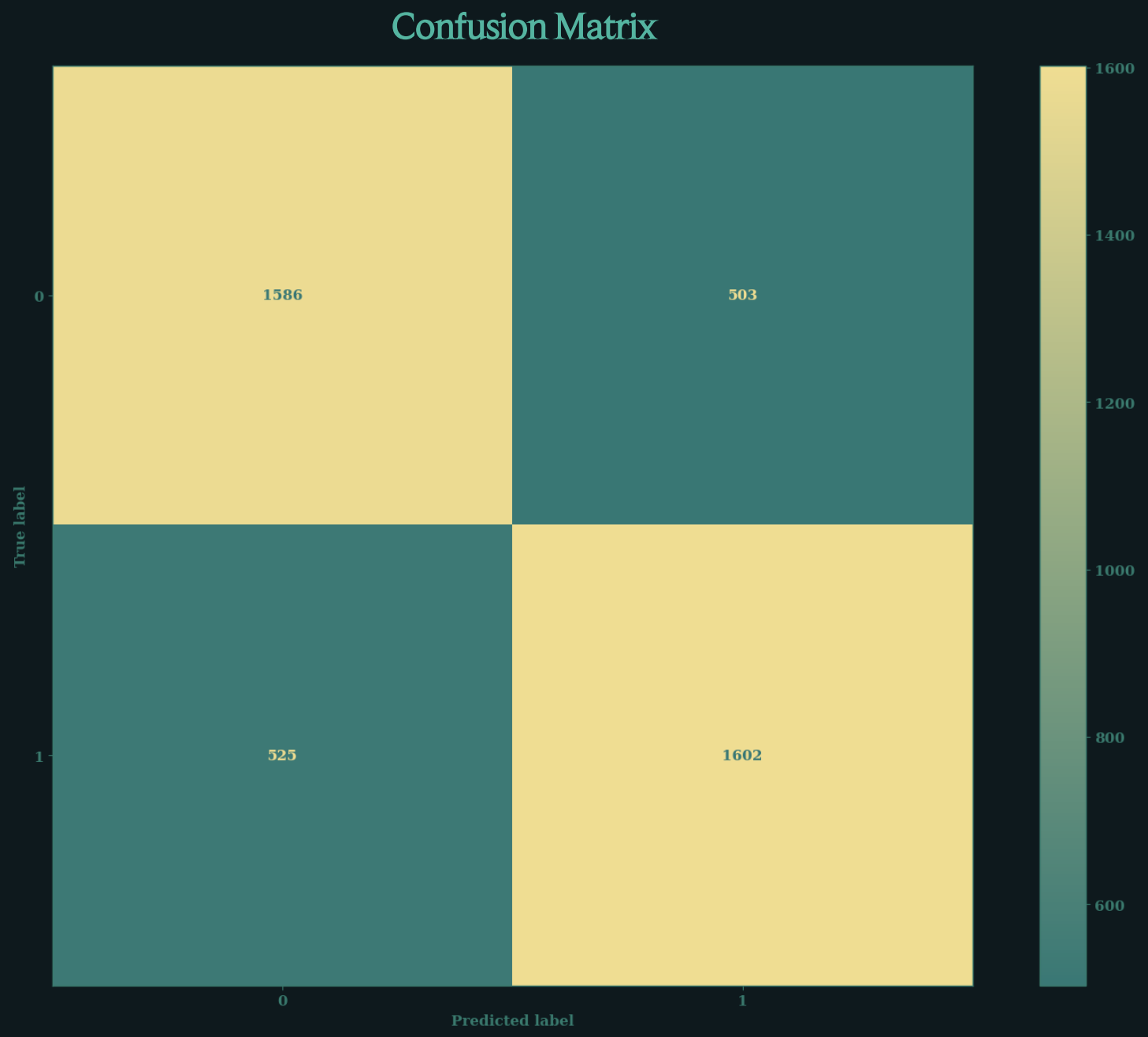
MODELING

- Started with a simple logistic regression model predicting hard classifications
- After using cross-validation to determine the best level of complexity, our model was trained on our training data
- Decision threshold was set at 50%

EVALUATION

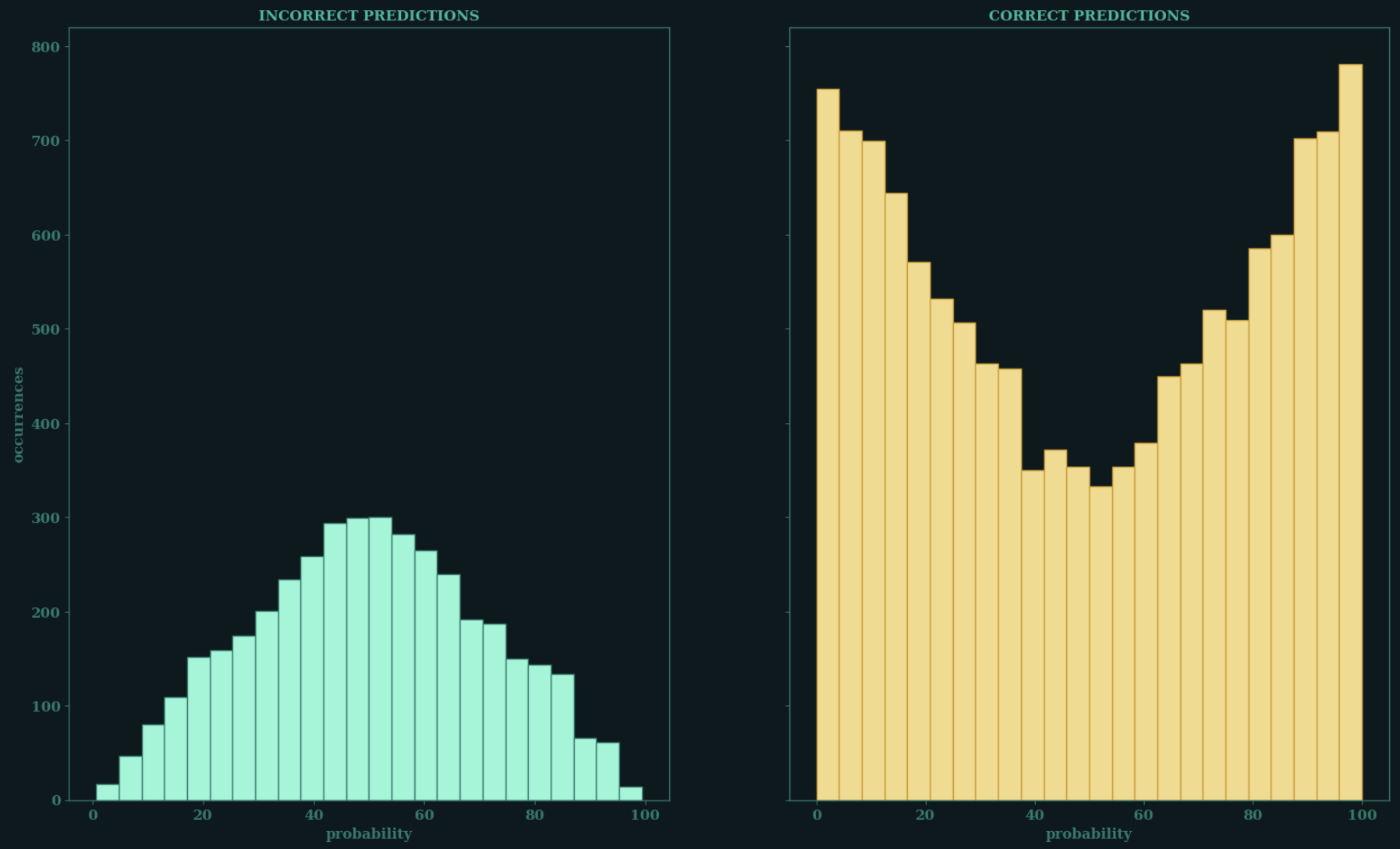
Using a standard 50% decision threshold, our models accuracy was 76%

- Roughly equal distribution of false positives and false negatives



EVALUATION

- Most incorrect predictions centered around 50% probability
- False positives had a mean predicted probability of ~67%
- False negatives had a mean predicted probability of ~34%



ANALYSIS

TAKEAWAYS

We are confident this tool can be used by e-sports casters in assessing games, with any level of inaccuracy allowing for interesting discussion by casters

LOOKING FORWARD

- Dive deeper into false positives and negatives
- Use stats at 10 minutes to assess win probability at earlier in the game
- Potential to implement this model on all player-base games to help inform game balance decisions

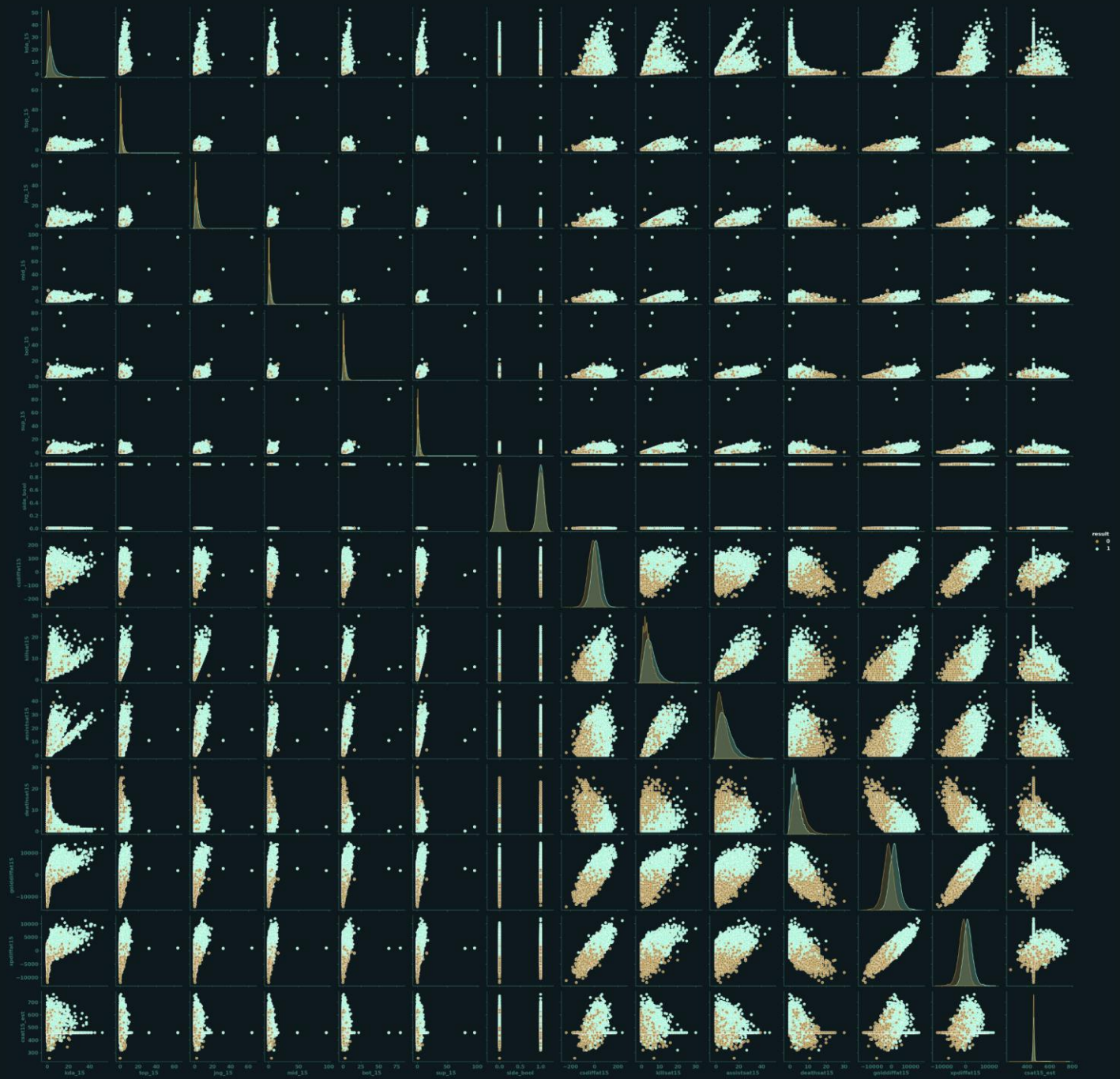
THANK YOU

CONTACTS

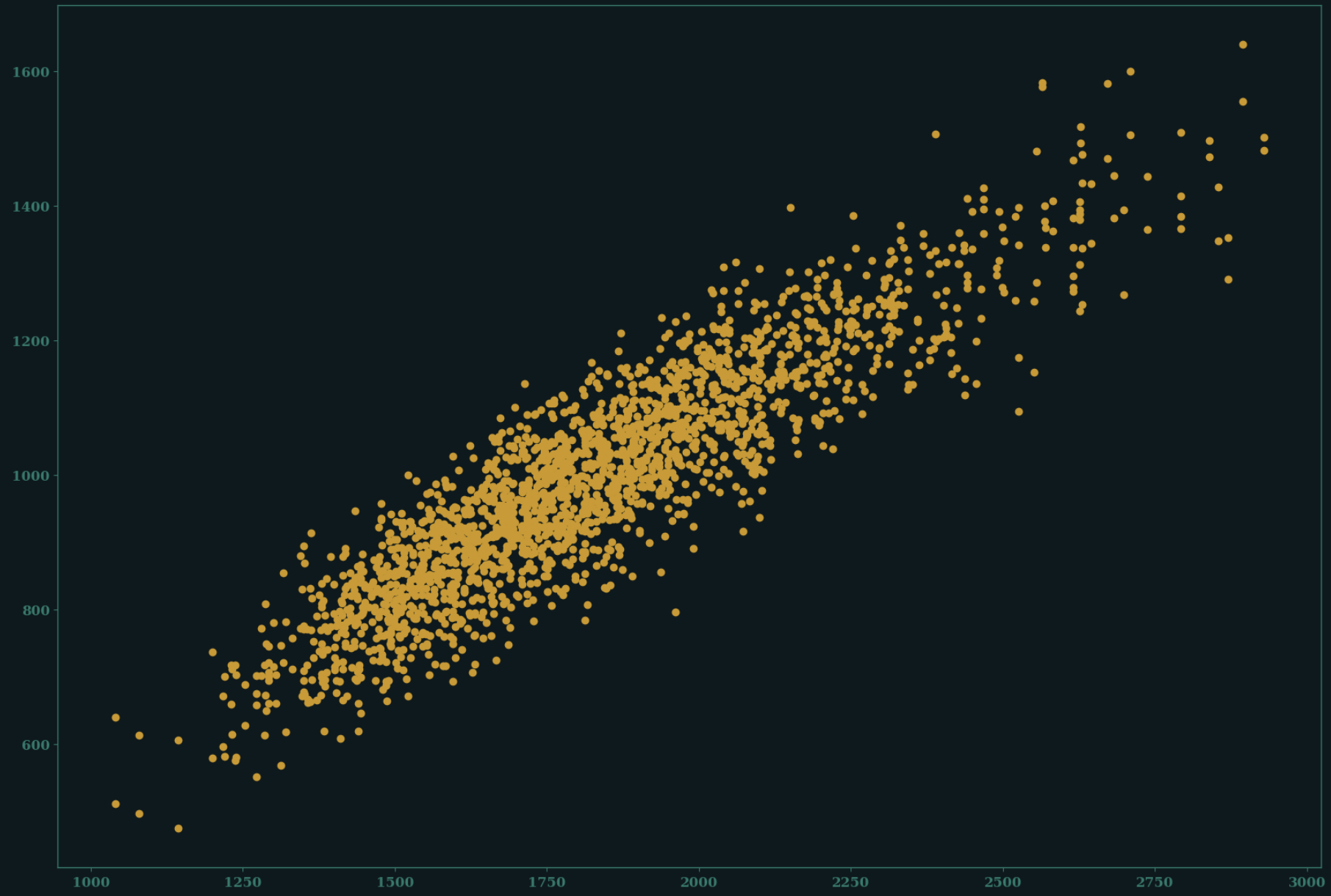
matthewryan33@gmail.com

/maneaterrbug

/matt-mcg-ryan



LEAGUE OF LEGENDS



Lin_reg coef = .5088