

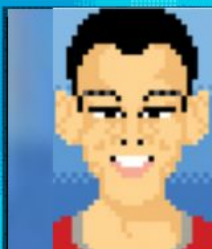
WEST

GOLDEN STATE DALLAS
L.A. CLIPPERS DENVER
L.A. LAKERS HOUSTON
PHOENIX MINNESOTA
PORTLAND SAN ANTONIO
SEATTLE UTAH
SACRAMENTO ROOKIES

ATLANTA
1 CHARLOTTE
CHICAGO
CLEVELAND
DETROIT
INDIANA
MILWAUKEE

BOSTON
MIAMI
NEW JERSEY
NEW YORK
ORLANDO
PHILADELPHIA
WASHINGTON

EAST



CHEN

SPD: 8 POWER: 3
3Pts: 6 STEAL: 3
DUNK: 9 BLOCK: 5
PASS: 7 CLTCH: 5



SERRANO

SPD: 8 POWER: 1
3Pts: 8 STEAL: 5
DUNK: 4 BLOCK: 3
PASS: 7 CLTCH: 2

MAKE OR MISS?

A COACH'S GUIDE

QILUN CHEN &
EVAN SERRANO
PHASE 3 PROJECT

INSTRUCTORS:
GOWTHAM AND
COMEAX

BARKLEY

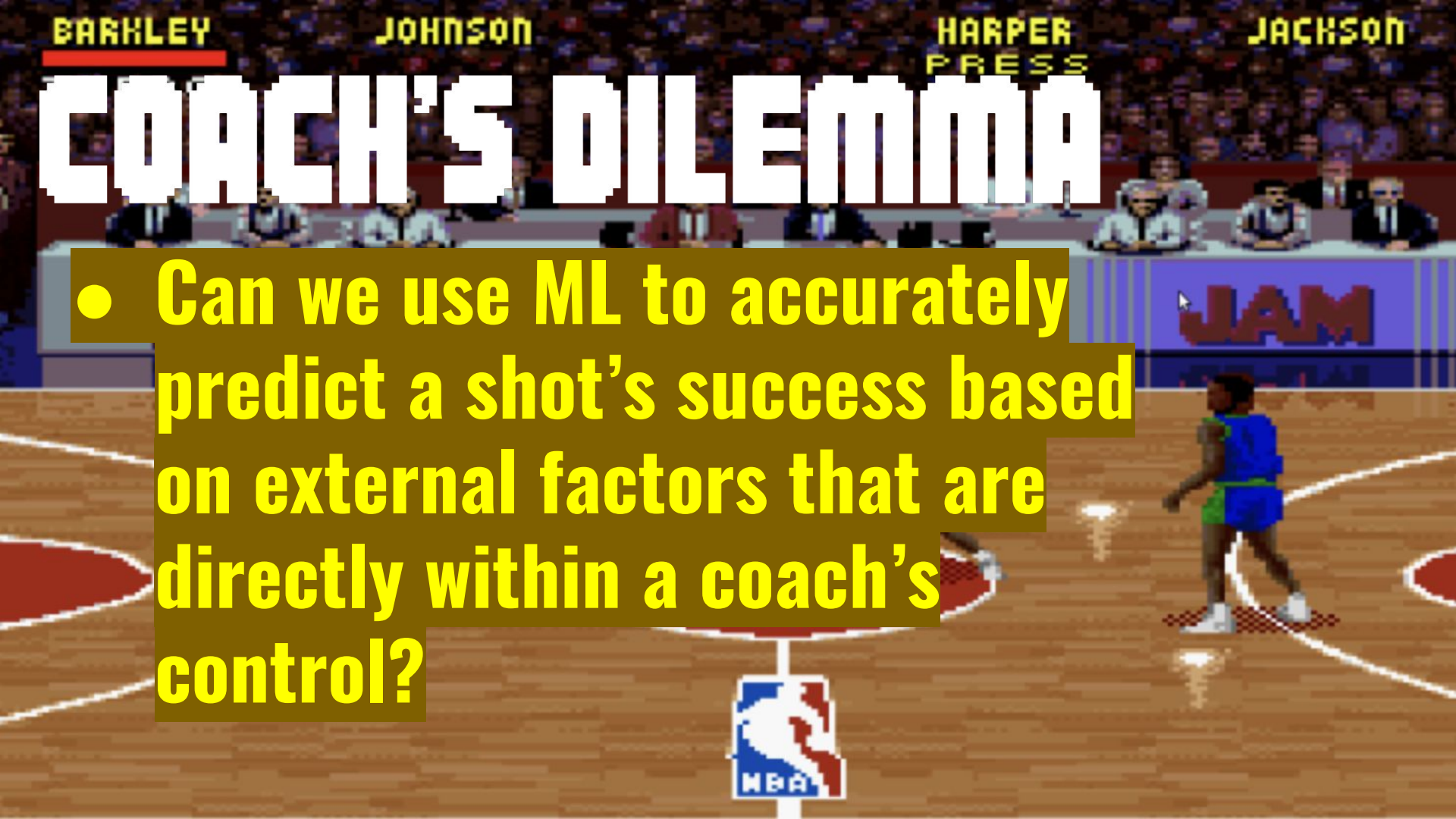
JOHNSON

HARPER
PRESS

JACKSON

COACH'S DILEMMA

- Can we use ML to accurately predict a shot's success based on external factors that are directly within a coach's control?



BARKLEY

JOHNSON

**HARPER
PRESS**

JACKSON

SCOUTING REPORT

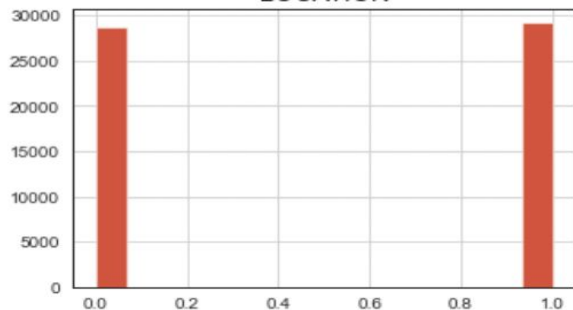
(DATA ANALYSIS)

- **180K SHOTS FROM '14-'15**

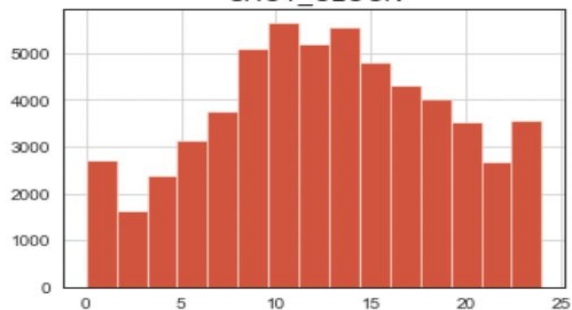
- **FG%: 45%**

- **LOCATION, SHOT TYPE, DEFENDER DISTANCE, SHOT CLOCK, GAME CLOCK, DRIBBLES, TOUCHTIME**

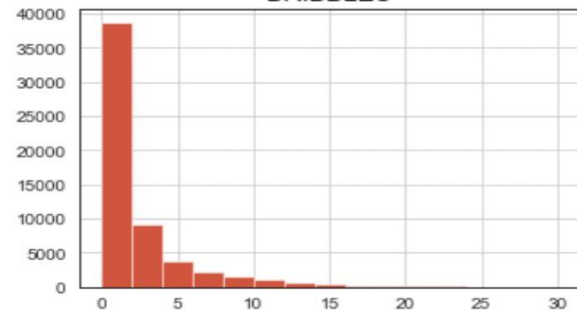
LOCATION



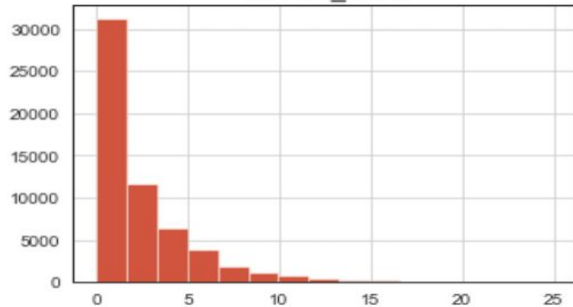
SHOT_CLOCK



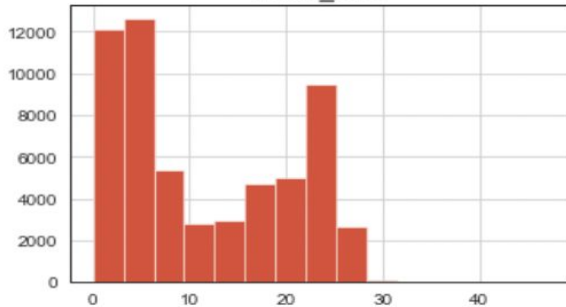
DRIBBLES



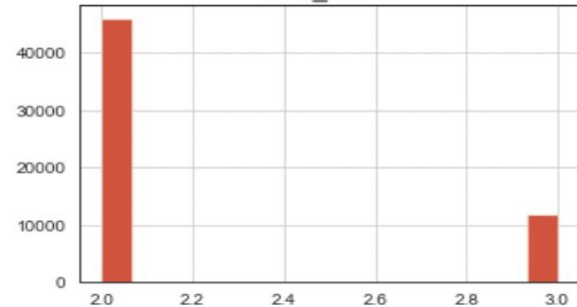
TOUCH_TIME



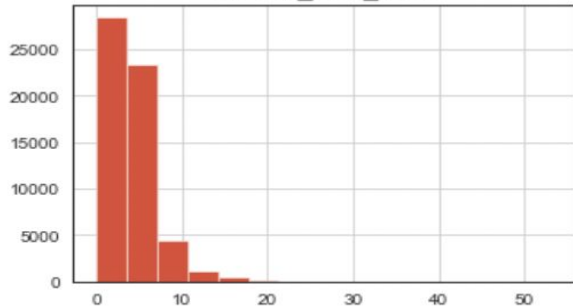
SHOT_DIST



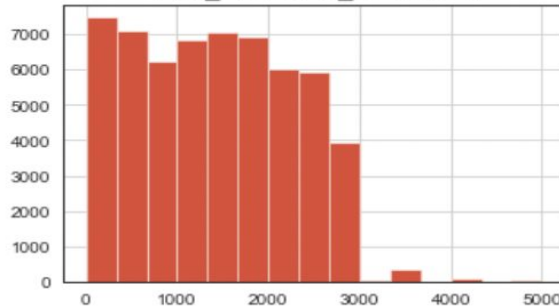
PTS_TYPE



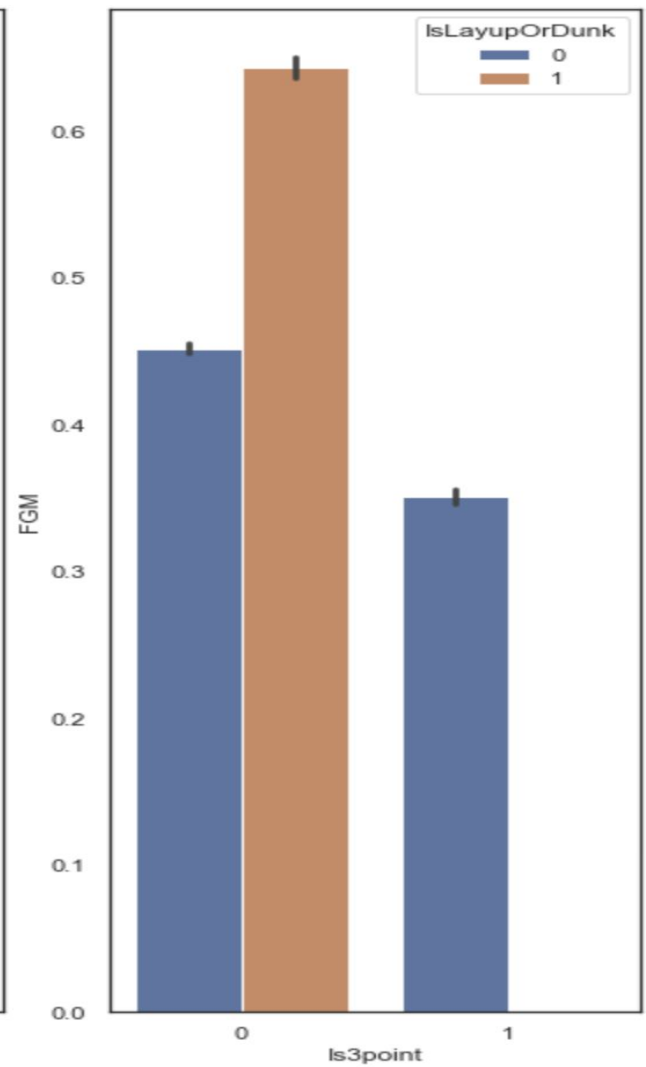
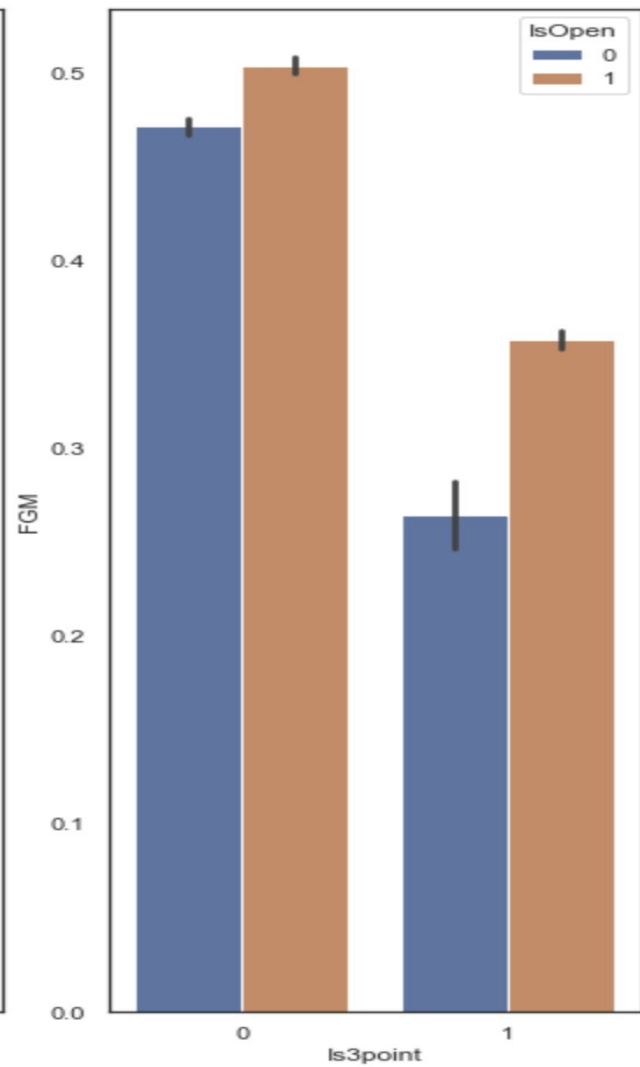
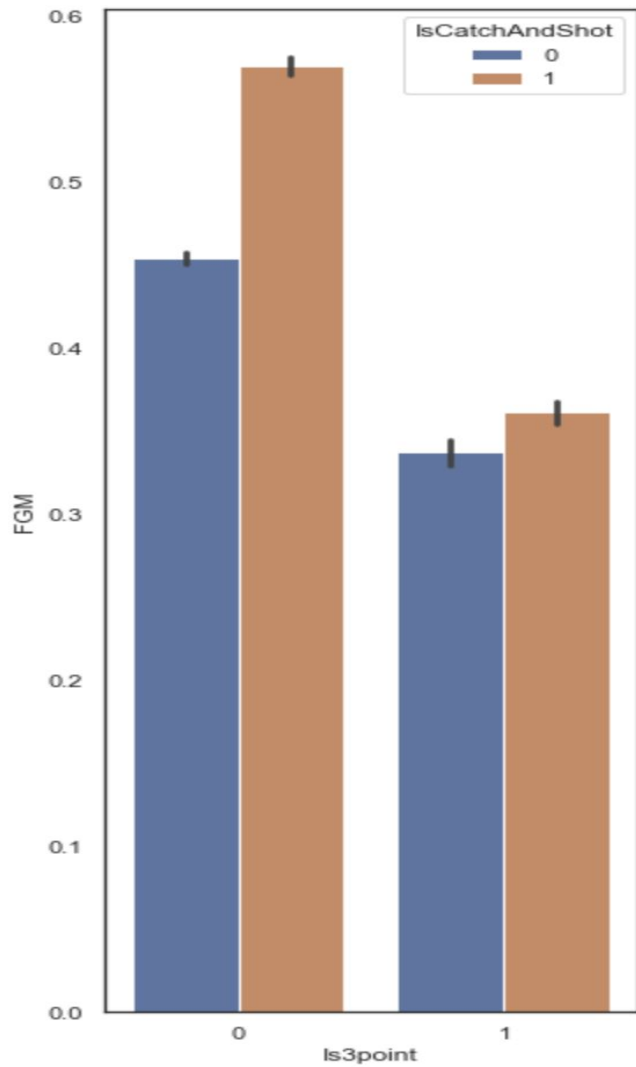
CLOSE_DEF_DIST



TIME_ELAPSED_SECONDS



DISTRIBUTION
OF MADE SHOTS



BARKLEY
TURBO

JOHNSON

HARPER
PRESS

JACKSON

CLASSIFICATION

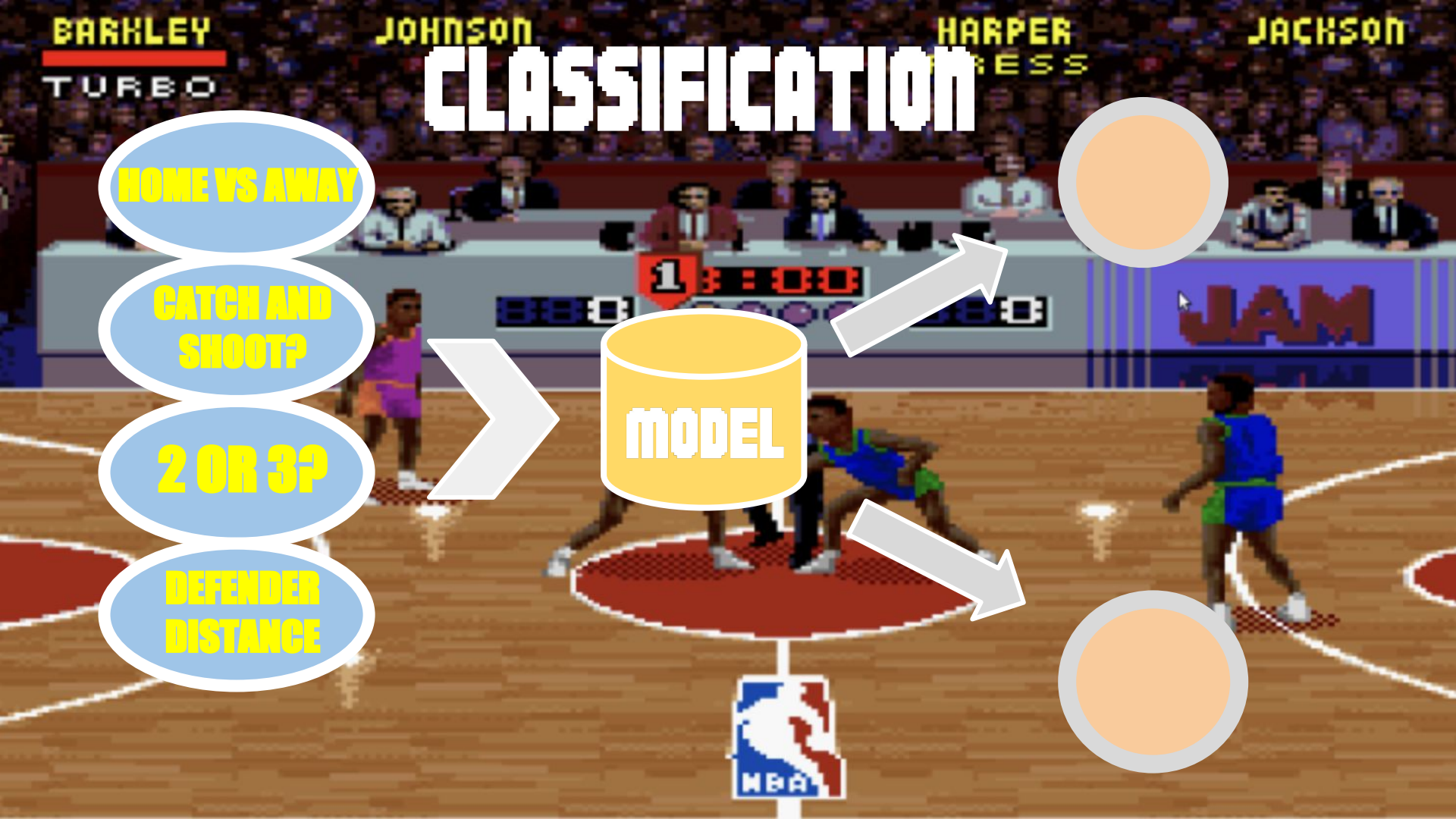
HOME VS AWAY

**CATCH AND
SHOOT?**

2 OR 3?

**DEFENDER
DISTANCE**

MODEL



BARKLEY
TURBO

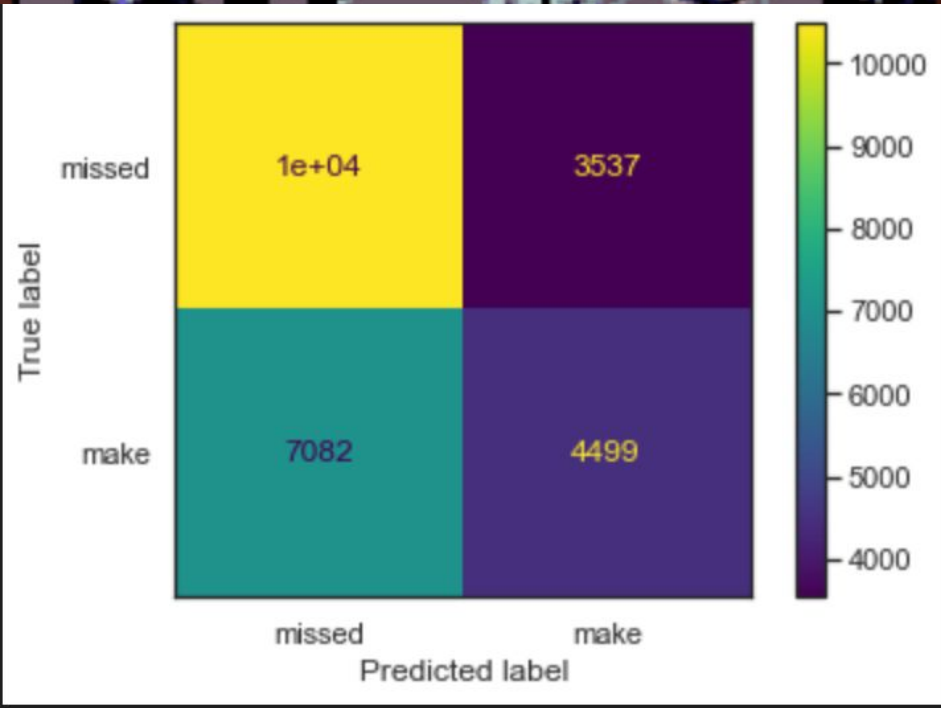
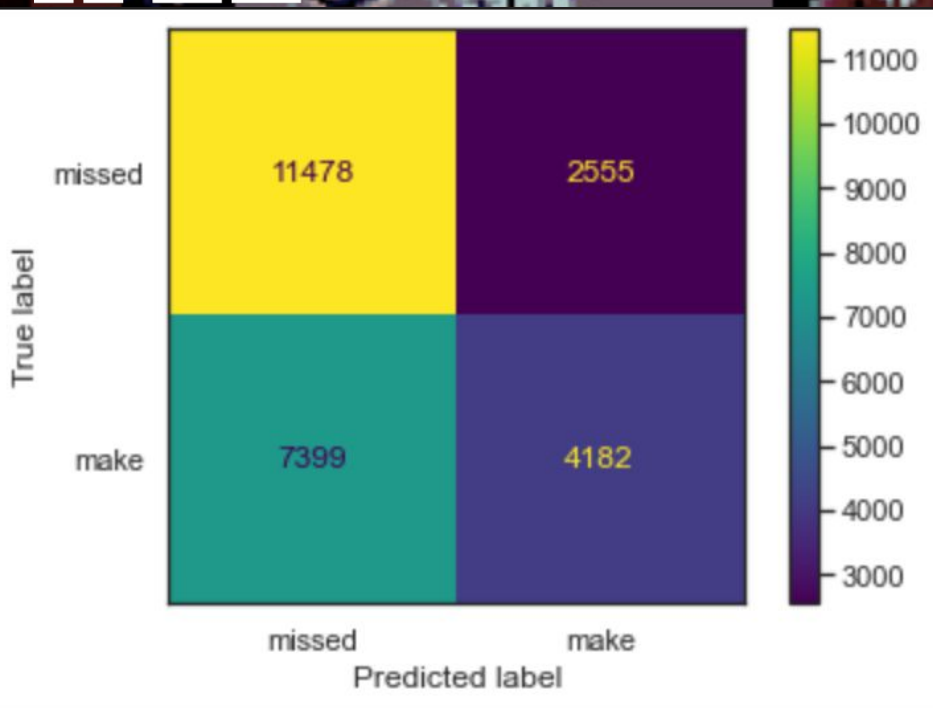
JOHNSON

HARPER
PRESS

JACKSON

HGB

RF



BARKLEY

JOHNSON

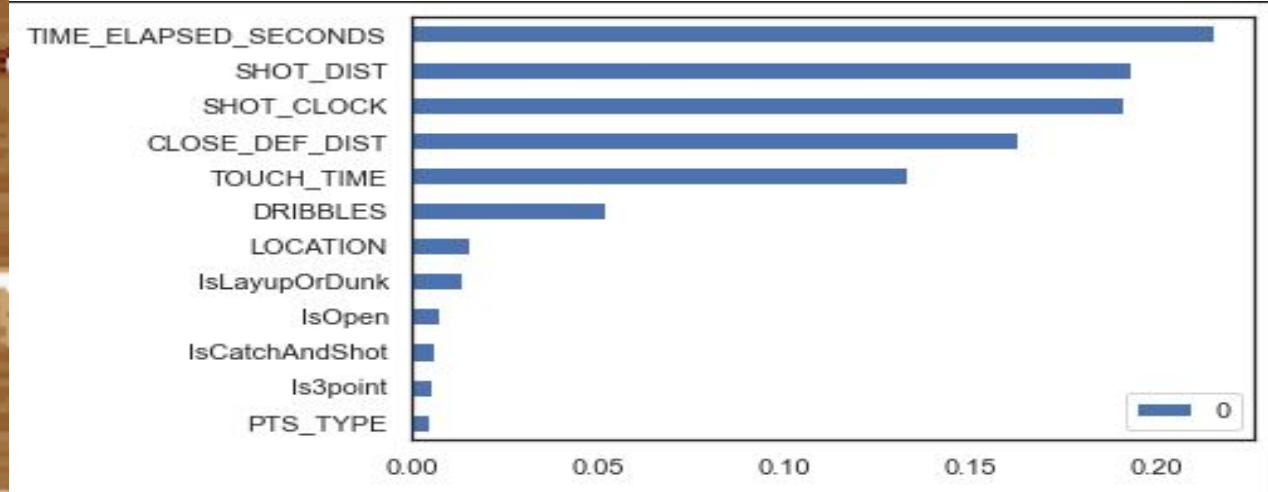
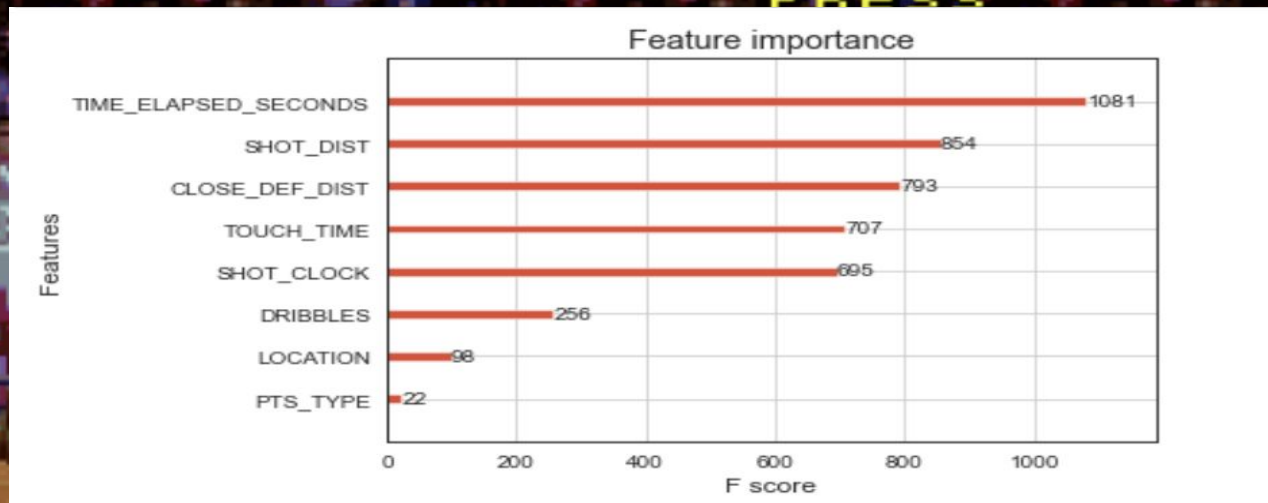
HARPER

JACKSON

TURBO

XGB

RF



A pixelated screenshot of an NBA game. At the top, player names BARKLEY, JOHNSON, HARPER, and JACKSON are displayed. Below them, the word TURBO is on the left and PRESS is on the right. A large 'FINAL SCORE' text is overlaid in the upper left. In the center, a scoreboard shows '1:00'. The court below features a player in a blue jersey with the number 1, and another player in a blue jersey is visible on the right. The NBA logo is at the bottom center.

FINAL SCORE

- ~ .64 model accuracy after tuning
- Feature Importance
- High Variance
- Complex question where human error highly unpredictable

BARKLEY

JOHNSON

HARPER
PRESS

JACKSON

ROOM FOR IMPROVEMENT

- **MORE DATA!** (wearable tech, trends from different seasons)
- **More creative feature engineering**
- **Unknown factors** (passes prior to shot, shot angle, streak vs slump, shooter-specific info)

