

KOBE BRYANT – SHOT PREDICTOR

DATS-6103 – FINAL PROJECT

Looking back on the professional basketball career of the late, great Kobe Bryant, still today there exists wide public debate around Kobe's NBA legacy. Within our analysis, we hope to analyze, evaluate, and generate predictions by utilizing Kobe's on-court career statistics (along with other external / situational game data) in order to assess the likelihood of whether Kobe will make or miss a given shot attempt, based on pre-specified model parameters.

We obtained our proposed data set from Kaggle (<https://www.kaggle.com/c/kobe-bryant-shot-selection>) and plan to supplement all Kaggle-sourced data with metrics sourced from various public NBA analytics tracking sites, namely Basketball Reference (<https://www.basketball-reference.com/>).

By studying the relationships between key variables of interest, we intend to examine how accurately Kobe's shot-making ability can be estimated based on a selection of parameter inputs. Our team's initial modeling approach is to assess and develop predictions utilizing a logistic regression model.

- Shot Type – dunk, layup, 2-point jump shot, 3-point jump shot
- Shot Location / Distance – court latitude/longitude, shot distance (0-24+ ft)
- Game Type – playoffs, regular season
- Game Situation – quarter, clock, clutch time
- Kobe Historical Stats – career average stats (per 36min/game), minutes played
- Lakers Historical Stats – team averages, W/L record
- Opponent Historical Stats – Lakers team metrics, opponent metrics

GitHub: <https://github.com/maaz1m/kobe-shot-predictor>