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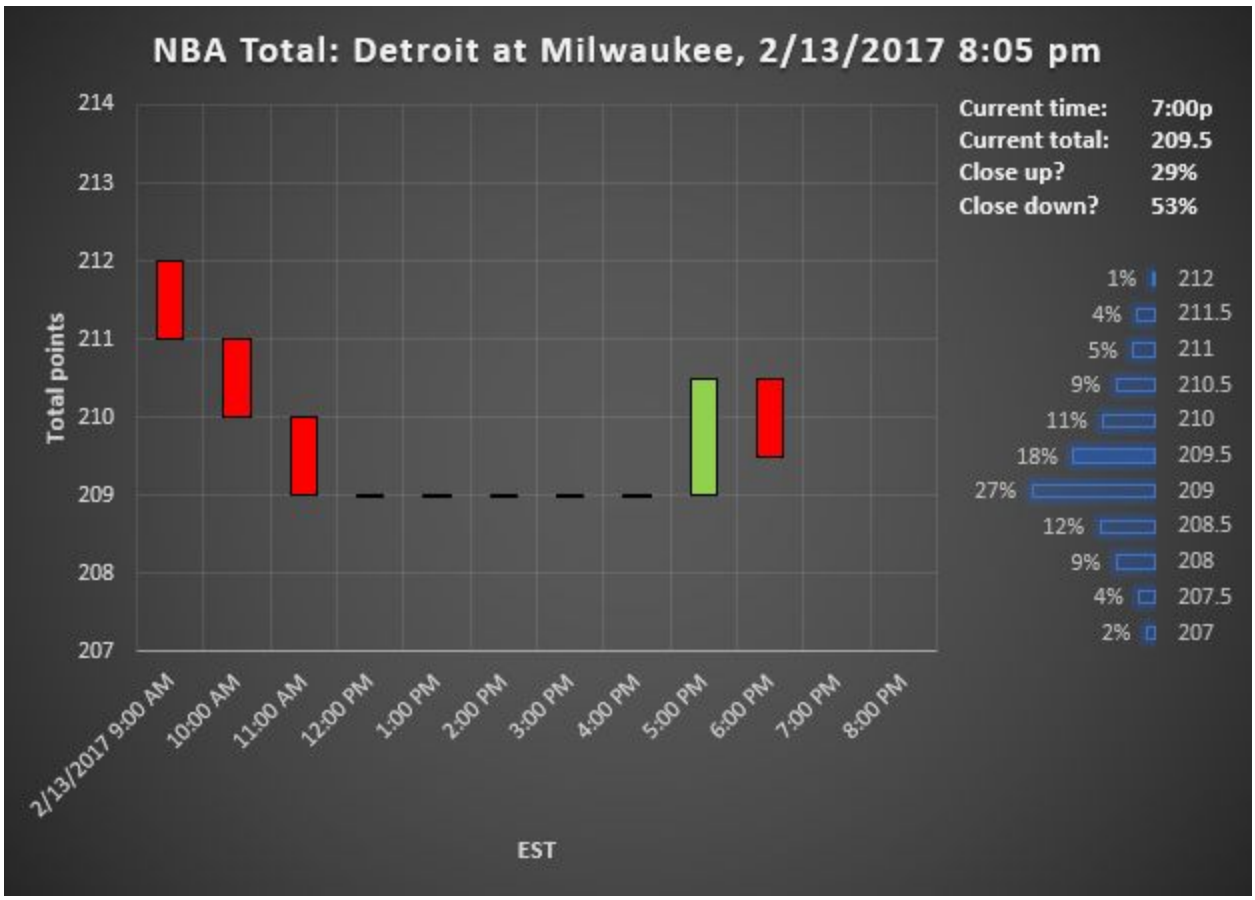
CAPSTONE PROJECT IDEAS
DATA SCIENCE - CAREER TRACK



Idea 1: Predictive analysis, sports betting line movement

Sports betting lines move throughout the day, and it would be useful to be able to predict what the closing line will be. This information would be helpful for bettors that wanted to bet on a particular side or total: is the line moving against the bettor (i.e. should the wager be placed immediately), or will the line become more advantageous as it gets closer to the time when the contest is scheduled to begin (i.e. wait until the last

possible moment to gamble). The data required could be obtained from odds feeds available on the internet.

Idea 2: Expected value from short-stacking poker bot

Several Las Vegas casinos have heads-up limit Texas hold 'em machines (or 'bots'), and I'd like to know the expected value of short stacking the bot and cashing out after a maximum of two hands. Analysis has shown that being the dealer is worth 0.088 the amount of the big blind, but this advantage would be less if the player were short stacked - this project would set out to determine how much less, assuming optimal play. Data needed to perform this analysis could come from the Cepheus Poker Project (http://poker.srv.ualberta.ca/) which details near optimal play for this game.

Idea 3: Real-time sports betting parlay calculator

Real-time win percentage by team tables for various contests are popular visualization tools that help the viewer get a sense of who is likely to win a particular sports contest. However, parlay bettors often have multiple contests going on at the same time, making it impossible to know what their odds of hitting their parlay is. This idea is one that I have the least interest in (and collecting the data would be very challenging), though it would definitely come in handy for parlay bettors.