

## Scoring probability versus previous shot of the same player

**Figure 2:** These graphs are obtained by analyzing two datasets, deriving from the play-by-play records of all the matches played during two competitions: the Italian "Serie A2" Championship 2015/2016 (that constitutes the second-tier of the Italian league pyramid, just below the first division "Serie A", and is the highest Italian non-professional competition level), and the Olympic Basketball Tournament "Rio 2016". The datasets are obtained by extracting, from play-by-play data, all the attempted shots, described according to all the information that can be extrapolated from such data (e.g. the player, the time, the shot clock, the score, ...). This Figure investigates the relationship between the scoring probability (i.e. the probability to score a basket when a shot is attempted) and the previous shot of the same player (made or missed), separately for 2-point and 3-point shots and free throws, by presenting boxplots of the bootstrap estimates of the scoring probabilities conditioned on the previous shot made or missed. The previous shot appears definitely associated with the scoring probability in case of free throws, in both datasets, with an appreciable higher scoring probability when the previous shot scored a basket. Nevertheless, the opposite relationship emerges for 3-point and, more weakly (with almost overlapped boxplots), 2-point shots, where the probability of a successful shot seems to be higher when the previous shot was missed. The results obtained with the two datasets ("Serie A2": top panels - "Rio 2016": bottom panels) are very similar, in spite of the very different professional level.

