

MASTER'S THESIS PRESENTATION

Statistical Methods to Detect Cheating in Bridge

WHEN

November, 9, 2021
1:30 PM, CST

WHERE

Via ZOOM

ZOOM information will be provided in the email announcement for this seminar.

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Contract bridge is a popular card game across the world. Recent cheating scandals in top-level bridge competitions have highlighted the importance of cheating detection in bridge. Traditional cheating detection requires expert knowledge of bridge, and code breaking can be very time-consuming. Statistical methods have been used in judging cheating allegations, and we classify them into two main types: testing conjectured codes and testing player performances.

In this paper, we briefly discuss how statistical methods have been used to test conjectured codes, and then focus on testing player performances in opening leads. We utilize a double dummy solver to calculate players' success lead rates and correct card rates in each tournament. We take the luck factor into consideration, and combine the results of binomial tests and studentized residuals to look for suspicious players. We explain how we could possibly detect the known cheating pairs, and how our method can serve as the first-round search for suspicious players.

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