

## ***Card Guessing with Feedback***

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**Time: March 10th, 9:00–10:00**

**Zoom meeting ID: 81274717729 Password: 121323**

**Link: <https://zoom.us/j/81274717729>**

### **Abstract:**

Consider the following one player game: a deck with  $m$  copies of  $n$  different card types is randomly shuffled, and the player attempts to guess the cards sequentially as they are drawn. Each time a guess is made, some amount of “feedback” is given. For example, one could tell the player the true identity of the card they just guessed (the complete feedback model) or just whether they’re right or not (the partial feedback model). We consider the problem of estimating the maximum and minimum number of correct guesses the player can guarantee in expectation for both of these models. We also consider variants of these problems, which end up having connections to increasing subsequences in random multiset permutations, as well as to Rock, Paper Scissors.