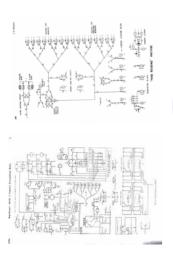


#### history

This game was inspired by Claude Shannon's "A Mindreading(?) Machine" and D.W. Hagelbarger's "SEER, A SEquence Extrapolating Robot", both from the early 1950's. Both were at Bell Labs at the time. As legend has it, they had their machines compete against each other, and Shannon's won, by a margin of 55-45.



by



anup doshi and prof. yoav freund

## seed.ucsd.edu/~mindreader

### a mind-reading game we can read your mind

#### try to be as random

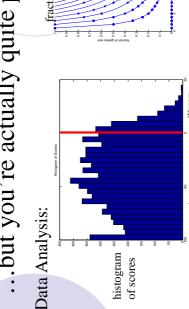
as you can...

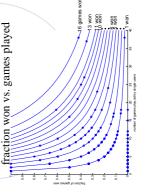
Online learning and prediction are vast fields within the realm of information theory. In this twist, instead of trying to predict events in nature, we try to predict the next move of a human player.

Formulated as a "racing" game, the mind-reader will try to predict your next input based on your previous moves.

Recent work in online learning involves "A Context-Tree Weighting Method" [Willems et al.] and "How to use expert advice" [Cesa-Bianchi et al.]. The current implementation of the applet uses a variant on the Context-Tree Weighting Method, which can be thought of as an extension of variable-length Markov Models.

# ...but you're actually quite predictable!





7708 games played 3.17.06 - 10.17.06: computer won 86.78% of the games played, by an average margin of 39 moves.

6689/7708 (86.78%) time taken vs. score