half-baked idea

Alex Schlegel <schlegel@gmail.com> Wed, Dec 16, 2015 at 4:03 PM
To: "Peter U. Tse" <Peter.U.Tse@dartmouth.edu>

Just saw your email but I had this one just about finished, so I'll go ahead and send it:

More papers that are similar to the previous paper I sent:
http://www.pnas.org/content/98/20/11832.short
http://www.pnas.org/content/early/2008/04/18/0711099105
http://www.sciencedirect.com/science/article/pii/S1053811904002241
http://link.springer.com/article/10.1007/s11682-008-9047-y
http://rstb.royalsocietypublishing.org/content/358/1431/583.short

These seem to have already explored similar ideas to ours, so it would be important to clarify what our experiment would add. Would it go beyond just introducing MVPA into the mix?

Here are some other possible game ideas:

Fox and *** games. These are nice because you can play as either the fox or the other thing, so that would be one branch of the hierarchy right there:
https://en.wikipedia.org/wiki/Fox_games
Also Lambs and Tigers:
https://en.wikipedia.org/wiki/Lambs_and_Tigers_(Game)
or Bagh Chal:
http://bagchal.rat32.com/

"Bidding" games like this one named Tennis:
http://www.papg.com/show?3CC6

Various graph-based games:
http://www.papg.com/show?2UQ3
https://en.wikipedia.org/wiki/Dots_(game)
https://en.wikipedia.org/wiki/Paper_soccer
https://en.wikipedia.org/wiki/Sprouts_(game)
https://en.wikipedia.org/wiki/Dots_and_Boxes
https://en.wikipedia.org/wiki/Havannah
https://en.wikipedia.org/wiki/Y_(game)
https://en.wikipedia.org/wiki/Hex_(board_game)
https://en.wikipedia.org/wiki/Connection_game

Tic-tac-toe like games:
https://en.wikipedia.org/wiki/Mlynek
https://en.wikipedia.org/wiki/Nine_Holes
https://en.wikipedia.org/wiki/Achi_(game)
https://en.wikipedia.org/wiki/Tapatan

Also these I haven't had a chance to look through thoroughly:
https://en.wikipedia.org/wiki/List_of_abstract_strategy_games
https://en.wikipedia.org/wiki/Category:Mathematical_games

Trust Game
Ultimatum Game
Coordination Game

Prisoner's Dilemma (and variations: https://en.wikipedia.org/wiki/Prisoner%27s_dilemma#Related_games)
The Sally (2003) paper above describes each of these.

Rock, Paper, Scissors is nice, because there really is no other strategy than thinking about what the other person is thinking. I haven't been able to think of qualitative variations of that idea, though.

Another interesting manipulation would be to pit the subject against two different "human" players. Say "Human A" and "Human B". In reality, each "human" is the same random computer algorithm. In this case, we could not only attempt to classify between games, but also between opponents. The hypothesis would be that we will be forming separate mental representations about each opponent, regardless of whether they in fact use the exact same strategy, and we should therefore be able to classify between which opponent you are playing against.

What about this?

Games:
-2 versions of a coordination game: https://en.wikipedia.org/wiki/Coordination_game
-2 versions of another game, possibly a Trust game and an Ultimatum Game, since they seem similar
(I like that bidding game, though. It would be nice to think of two variations of that)

Opponents:
"Human A"
"Human B"
"Computer"
(which in fact are always just the same computer)

Analyses:
regions that can classify game with "human" opponent vs. "computer" opponent
regions that can classify between the two "human" opponents

Alex

[Quoted text hidden]