Computer program to take on world's best in Texas Hold 'em

April 24 2015

An image of a person playing the poker varient, Texas Hold'em. Credit: Wikipedia.

Carnegie Mellon University researchers are going all in, pitting a computer program against some of the world's best professional poker players.

Computer science professor Tuomas Sandholm and researchers Sam Ganzfried and Noam Brown are taking their poker-playing computer program, Claudico, to Rivers Casino on Friday. Claudico—the Latin word for limp, as in limping in to a bet—will take on Doug Polk, Dong Kim, Bjorn Li and Jason Les. They'll split a prize purse of $100,000 in a competition funded by the casino and Microsoft.

Getting a computer to beat humans in poker has been a goal for more than 10 years, Sandholm said. The numerous unknown variables are the perfect test for artificial intelligence. The machine must account for about 10 to the 161st power of variables—more than all the atoms believed to exist in the universe.

Les, 29, is a professional poker player but has a degree in computer science. He said he relishes the opportunity to play Claudico.

"I think in the early stages, the computer might have an advantage, but at a certain point the players can figure out what's going on and adjust," Les said. "But it's a strategy game. You bring a strategy to the table and the computer's strategy may be better than mine."

The competition continues the work of other Carnegie Mellon-trained scientists who have contributed to past artificial intelligence challenges, such as IBM's Deep Blue program that beat chess master Garry Kasparov in 1997 and IBM's Watson, which beat Jeopardy champions Brad Rutter and Ken Jennings in 2011.

Pasadena, California, resident Doug Polk said he wants to represent humans as best he can against the machines that will eventually beat them.

"I hope we can stand up for humanity and take this computer down," he said with a laugh. "I know computers will eventually be able to beat

humans. But I hope we can make them go a few more rounds after this before they do, like Kasparov did."

The computer will play 80,000 hands of Heads-Up No-Limit Texas Hold 'em in the two-week tournament.