AI Impact

As a huge chess and go fan, I paid some of my attention to the human vs AI matches over the years. Although it is sad to see the best professional players still lose to AI, but there are still positive things from these matches.

The chess matches between human and computer can trace back to 1950’s, but at that time the computer’s evaluation speed is relatively low, it has nowhere to win a professional chess player. Mac Hack VI. Dreyfus, a MIT professor who had written *What Computers Can’t Do* said that computer has no way to even win a 10 years old boy on chess.

The famous match between Kasparov and Deep Blue happens in 1996 to 1997, Kasparov win 4-2 in 1996, but lost to the adaptive Deep Blue on 1997. And this is the first time that a chess World champion lost to AI.

Some programmers have broken down all the legal moves on chess, the state-space complexity for chess is 10^46, and the game-tree complexity is 10^123. When human plays chess, most moves are too unreasonable to play, like moves your king on the second move. So, we immediately ignore them, and that is our advantage. The computers have to count all the possibilities, because that is how the computers work. When Kasparov lost to Deep Blue, that means even the person with the most experience, the most skills cannot beat a computing machine.

What I get from this is that even the hardest problem in chess, physics, math, astronomy etc. can all be solved by computers. It is just about the computing speed. If a computer can simulate all the emotions and randomness of human, it is possible for us to create a real human not robot.

Fun Fact: AI starts to beat professional player on GO much later than chess. Because Go is much more complex. Its state-space complexity is 10^172, and game-tree complexity is 10^360. However, the AI AlphaGo still beat world champion Ke Jie on 2017.