

HOW PUBG IS USING

(Machine learning)





WHAT IS PUBG?

- PlayerUnknown's Battlegrounds (PUBG) is an online multiplayer battle royale game.
- 100 players are dropped onto an island empty-handed and must explore, scavenge, and eliminate other players until only one is left standing, all while the play zone continues to shrink.



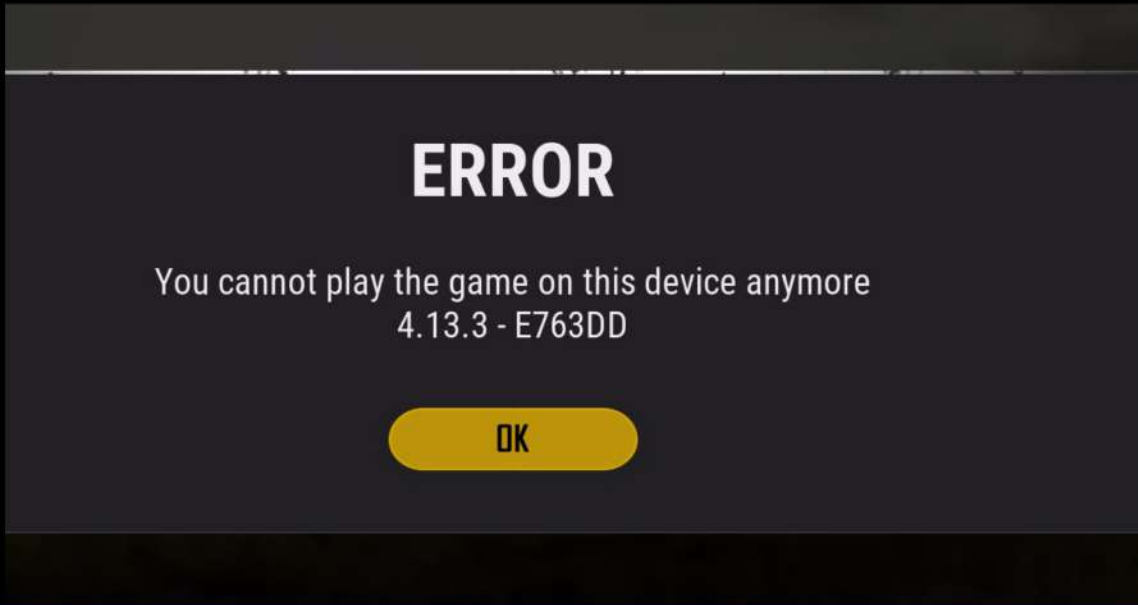
HOW PEOPLE CHEAT IN PUBG?

- Most used techniques to cheat are like
 - DLL, Code injection, Kernel driver attacks, and SDT process hollowing
- They implemented 2 different anti-cheat solutions, BattlEye and Uncheate.
- Still people are cheating in the game so they introduced ML to catch them.



WHY PUBG IS USING AI?

- PUBG has always been a game where cheating has been extremely prominent. They even started to BAN people who cheat.
- This problem has never really gone away ever since the game was in beta.
- Cheaters continued to find new methods to exploit holes in the game's implementation of anti-cheat and were caught in the next wave of bans, but more and more just kept coming.



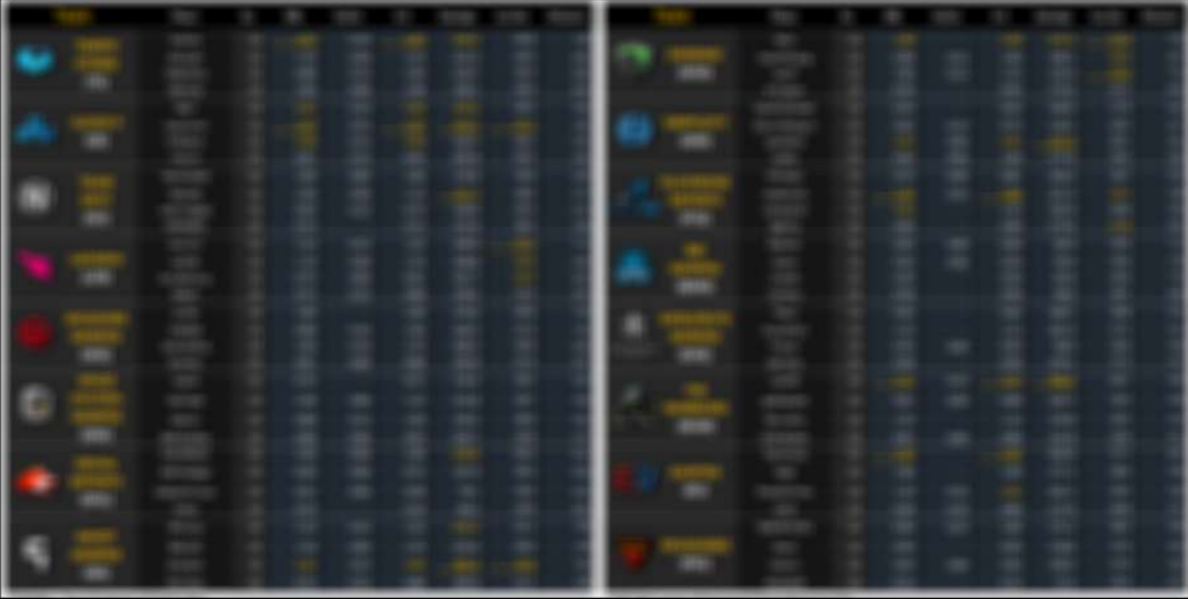
HOW PUBG IS USING AI? - 1

- They are using machine learning to analyse the usage patterns of the players.
- And it can detect and report the abnormal game patterns and add the player to review list (ban list).
- After undergoing a verification process by the team they will determine whether they are cheating in the game or not.
- A whopping 3TB of game logs are analysed by the team every day, apparently, along with more than 10 million reports.



HOW PUBG IS USING AI? - 2

- Another use of AI is to find the Pubg's Circle Mechanics. (Analysis done by Karan Gandhi (medium) not by PUBG).
- In his analysis he said that PUBG's circle is not random.
- It uses Euclidean Distance Measure to compute the circle by considering the cluster center of locations of individual players.



HOW PUBG IS USING AI? - 3

- PUBG Finish Placement Prediction competition by kaggle.
- The team at PUBG has made official game data available for the public to explore and scavenge outside of "The Blue Circle." This competition is not an official or affiliated PUBG site - Kaggle collected data made possible through the PUBG Developer API.
- You are given over 65,000 games' worth of anonymized player data, split into training and testing sets, and asked to predict final placement from final in-game stats and initial player ratings.

HOW PUBG IS USING AI? - 3

- AI predicts PUBG player placement from stats and rankings (This is done by researchers from University of Georgia not by PUBG).
- They tested several AI algorithms to predict final player placement in PUBG from in-game stats and initial rankings.
- The team set four machine learning algorithms loose on the samples: Light Gradient Boosting Machine, Random Forest, Multilayer Perceptron, and M5P. In experiments, these achieved mean absolute errors of 0.02047, 0.065, 0.0592, and 0.0634, respectively, with the Light Gradient Boosting Machine coming out on top in terms of accuracy.