**TFTBot Project:**

Analysis.

The Problem.

TFT, otherwise known as Team-Fight Tactics is an Auto-Chess, strategy game created by Riot Games and based on the engine that the popular MOBA League of Legends runs on. It is a incredibly complex, strategic game that requires game knowledge, experience and expert teaching to play at a high/ competitive level. Unfortunately, the game itself offers subpar at best tutorials to educate new players on how to play the game. New players are flung blind into the advanced game with little advice or guidance given, leaving them confused and loss during gameplay, hurting the experience, especially when they go up against more experienced players.

The Solution.

I believe that the solution for this is to create a TFT AI that players can play the game against at a configurable difficulty and around the clock. This will allow the players to improve and learn at their own rate, whilst also providing the invaluable opportunity to have an assistant that can assess any situation and provide immediate feedback and guidance on what could be improved on. I believe that the improvement gained from this would be the optimum way to improve at the game, far outweighing other methods such reading guides.

The Stakeholders:

The stakeholders/ target audience for the project will be players of the TFT game who either want to learn it for the first time, or improve their skills at the game, such as Suket Arya. Suket Arya is a new player who has never played Team-Fight Tactics before. He wants to learn to play the game ideally at a quick rate. He is not interested in spending a large quantity of time researching through guides or watching youtube videos, and would ideally like to learn while playing the game.

My solution can offer this and will offer them an invaluable service to improve their ability to play the game at a competitive level, being vastly greater than any readily available method. Expert-guidance, whilst playing, from an already pro level/ highly experienced player would be comparable, yet is not readily/ realistically available for everyone, all the time, unlike my solution.

Existing Solutions:

There are a few existing solutions available for players learning to play the game, such as reading community-crafted guides or watching videos from Youtubers. However, all pose key flaws that can be solved by my AI. I will evaluate a few of them below.

*Community Made Guides/ Watching Videos:*

This category is a blanket statement for community made content that aims to offer tips and tricks/ advice to improve yourself at TFT. They often offer a good basic level of content for new players, however they all suffer from some shared flaws:

* Can be outdated/ has to be updated:

Any guide risks becoming outdated at the drop of a hat when a new strategy or update is introduced to the game, maybe even risking harming some players’ ability to play the game if they read outdated information.

* Can be low quality/ incorrect:

Many guides can suffer from being incorrect or of low quality, whether due to malicious intent or not. The writer of the guide has to be experienced and willing to spend vast quantities of time creating a quality and accurate guide. If they wilfully make a mistake or not, any errors that are present in their work can harm the thousands of players who may choose to read it.

* Requires the user to search/ discern high quality guides and advice:

The user will have to search for high quality guides, discarding low quality ones and be able to discern high quality ones from low quality ones.

*Programs offering certain builds/ meta advice:*

There are certain programs you can download that will give you raw information about the game and current “meta” (most effective tactic available, so the best strategy available at the time, which often times its constantly updating).

* No adaptation

These programs do offer assistance and help formulate a strategy before the game, however, once in the game, they offer little to no guidance and cannot help you adapt to the game situation that may make your plan completely obsolete and untenable. Furthermore, because they do not gauge any information from the current game-state, some advice they offer could be incredibly and hopelessly incorrect and even do more harm than good if followed.

* Similar to community guides

They also offer no information that isn’t gainable with a quick internet search. Thus, these programs also share many of the short-fallings of community made guides, where the program has to be certain it is giving good advice and can risk giving incorrect guidance occasionally.

Need for Computational Method.

The solution to the problem that I have laid out, creating a copy of the Team-Fight Tactics game and then creating a machine learning AI to run and improve on the game, is perfect for computational methodology. Firstly, the copy of the TFT game is in itself an abstraction of the Team-Fight Tactics game which is an abstraction of the real world. The original TFT game abstracts many parts of real life, such as not simulating gravity for projectiles, not simulating wind or rain for character clothes models or considering the physical and theoretical consequences of summoning godlike deities and giant creatures larger than skyscrapers to battle each other to the death repeatedly over the course of a few rounds.

Then, my recreation of the game is an abstraction of that, only recreating what is necessary for the simulation of the game that the AI needs to run on. The graphical-user interface is not required for the AI, but may be included at a base level for debugging convenience, matchmaking and ranking will also not be needed, as only an AI will be running on the system. User-inputs also won’t needed to be taken (for the recreation) as the AI should be able to directly communicate with the game itself and tell it what to do.

Moreover, both the recreation and the AI will rely on pattern recognition.