POSITIONING OF LEGENDS: AN OBJECT TRACKING APPROACH FOR CHAMPION POSITIONING ANALYSIS IN LEAGUE OF LEGENDS

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Abstract

Object detection is a Computer Vision problem which provides the capability of identifying objects in images and videos like a human would by determining their position in the image or video.

League of Legends (LoL) is a popular PC-based Multiplayer Online Battle Arena (MOBA) game in which two teams of five players, usually strangers, fight each other with their selected champions, in strategic and often hectic battles to destroy the enemy teams' base (the Nexus) while defending their own.

League of Legends has a distribution of players with different ranked skill, where players of the highest skill level not only get in-game bonuses, they are also sought out by the League of Legends eSports organisations to player as a career.

With eSports slowly growing over the past decade and beginning to compete with traditional sports in terms of views, the desire to become a professional player is as great as every for League of Legends players. However, it takes great skill and in-game knowledge to be able to perform as such levels and the tools to teach lower ranked players are not available from the positional aspect with regards to the games.

To address the above problem, Positioning of Legends targets the positional analysis of professional players based on their gameplay and provides lower ranked players a tool to learn about their position and replicate them in their own games. This is achieved by utilizing the object detection architecture known as YOLOv3 to identify the positioning of champions through the course of the game. The results from detection are then used to generate heatmaps that are visualised and can be interpreted by lower ranked players to improve in their positioning.