**Machine Learning Approach to Gameplay Roles in Esports**

Other Sports

By: Sophia Cofone & Omnic Data

**Abstract**

This paper applies the idea of “positions” in traditional sports to the arena of competitive Esports such as Fortnite and Valorant. In the same way that positions help athletes focus in on a specific skill set, and organize the team to improve odds of winning, it is a common sentiment that professional Esports athletes play to a specific “role” or “gameplay-style” (such as Tank, Healer, or Sniper) to achieve the same ends. However, it is unclear if the idea of self-identifying as a specific role has actual impact on the player’s true gameplay. We use data generated by computer vision and artificial intelligence to gather over X metrics such as location, weapon use, character type, and damage taken/given and apply machine learning clustering & classification techniques to see if players’ gameplay can be meaningfully grouped into roles akin to positions in traditional sports. We identify driving attributes in the grouping, providing more information back to the player on how to sharpen and improve their gameplay style and potentially enhance team effectiveness by suggesting team composition with these positions.