

OLAMIDE OJEDOKUN

GEOG 270 (Introduction to Small Unmanned Aircraft Systems)

DRONE APPLICATIONS IN SPORTS AND RECREATION

SOUTH DAKOTA STATE UNIVERSITY

DRONE APPLICATION IN SPORTS AND RECREATION

Sports is more than an extracurricular activity for humans. It is a lifestyle, culture, entertainment, and necessity for human bonding and social interactions. Sports is what lots of people do to make income, provide for their families, entertain themselves and other people, help teach the importance of values and competition to every human whether young or old. The importance of sports in our society is highly understated. To most people, sports is an activity where individuals or teams compete with one another for the entertainment of the public/ others why getting compensated with gifts, money, accolades, notoriety, and all other benefits. To some, it's a physical activity one can engage in with family, friends, or even strangers for pleasure and recreation. There are thousands of different sports played worldwide; this shows how important sports are to our existence as humans. Recreation can be defined as an activity done for leisure or when one is not working or busy with other human activities. Recreation is essential for human health and psychology. Recreational activities could be hiking, exercise activities, playing games, or any activity that produce a form of entertainment.

Drones are the future of sports; in the past decade, we have been progressing and made efforts to implement the use of drones in sports and recreational activities. There has been an increase in the use of drones in professional sports for commercial purposes or recreational. Drones provide a form of surveillance far from human's reach, data collection, artificial intelligence, and even change in the way we view or watch sports presently. purposes I would be focusing my research on different ways drones can be used in sports and recreations, the reasons why drones can be the best option, and what kind of drones are also used. “The use of drones also requires FAA approval, which is currently being done on a case-by-case basis following Congress passing Section 333 of the FAA Modernization and Reform Act of 2012”

DRONES FOR SPORTS BROADCAST: Better Viewing Experience

The use of a drone has revolutionized how we view and watch sports. Drones are used to give sports fans a better viewing experience. Before the existence of drones, sports events or shots are captured by cameramen on a helicopter which is highly risky and there are places and angles where a cameraman or his helicopter cannot capture or reach than a drone could easily do. Drones can cover and fly where people can, they also can cover a large terrain or area. Drones offer bird's eye view and angles, which show viewers every perspective/angle of the sport they are watching. Drones let the views closer to the action and it takes high-quality shots. Most sports companies use DJI drones. Drones are used in the NFL, Soccer games MLB, NASCAR, and Golf tournaments. Drones in sports broadcast can be dated back to early 2015, drones for live broadcast are still a work in progress because most networks still use Skycam which is not considered a drone but a cable-suspended camera system.

DRONES FOR SPORTS ANALYTICS & RECORDING

Many sports teams, individuals have employed the use of drones to record their training and other analytic reasons. There has been an upward trend of using a drone to film practices and games in the U.S in the past decade. According to a college football coach who was asked why their use drones; he said, "You get a view of the field that you just can't get from cameras on the ground – hand placement, foot placement, spacing," Mora said. "When [the drone] hovers above the line of scrimmage, you get a real clear perspective of spacing between your offensive lineman and differences in the depth of the rush lanes of your defensive linemen. It allows players to see when they're out of position and where they need to be in different schemes." In the U.S, the NFL

was the first sports organization to recognize the importance of drones. They got approval from the FAA and most NFL teams now use drones for their training sessions. With these drone recordings, teams can go back and watch recordings; this will help improve gameplay in future games. In sports like baseball, drones can be used to track the movement and positioning of players on a team and opposing team that helps the analytics department in game preparation and tactics. Drones give sports teams the ability to watch aerial view recording that can be analyzed to gain a tactical advantage.

DRONES AS REFEREES/ SECURITY PURPOSES

Many people believe drones can replace referees/ umpires during sports games. This might be false currently but no one knows what the future holds. Drones can capture shots/ views that human eyes cannot; with the aid of artificial intelligence, a drone can do the job of a referee. Drones also help human referees in making accurate decisions by showing pictures or recordings taken during a live sports event. Maybe drones can be for backup instead of replacing human referees. Stadiums used drones for security reasons during sports events. They can be used for crowd control or monitor attendees during a sporting event if any crime or violent behavior is going on.

DRONES AS LIVE ENTERTAINMENT

Humans view entertainment as a form of recreation. Drones can play a part in live entertainment. In Olympic Games that take place every 4 years, the drone is used in the opening ceremonies. Tokyo 2020, 1824 Intel premium drones were flown above in the sky into various shapes or transitions to represent the emblem of the Olympics. Many people were amazed and

entertained by this drone activity. Drones can be used for live performances in concerts/ games. Drone-based lights are modified into shapes/ patterns and transitions to create entertainment for the public.

DRONES AS A SPORT

A drone does not only influence sports broadcast but has been made its sport. There is a new sport called drone racing, just like car racing, people can now race their drones against one another for competition. FPV (First Person View) drone racing is where a human rider control a drone to compete against other people. This started as a recreational activity but now it can be considered an emerging sport for the future. Drones like the Emax Hawk 5, Walkera F210 3D, Arris X-Speed 250B can be used for drone racing because they can be fast, agile, and equipped with FPV cameras. In Korea, they invented drone soccer which is fun to watch and futuristic.

CONCLUSION

Drones are considered the future of sports broadcasts, this UAS serves many purposes in the sports industry ranging from better viewing experience, training, and analytics purposes to crowd control and security measures. Drones also play their part in live entertainment that humans consider a type of recreational activity. Drones look futuristic thereby amusing and entertaining people. Drone as its sport could become bigger in the future like NASCAR. Sports broadcasting companies will continue to employ the use of drones because of their ability to get a bird's eye view.

REFERENCES

- <https://www.alldroneschool.com/how-are-drones-used-in-sports/>
- <https://digiday.com/media/eye-sky-fox-sports-bringing-drones-sporting-events/>
- <https://www.nacsport.com/blog/en-gb/Tips/drones-for-sports-video-analysis>
- <https://sporttomorrow.com/10-ways-drones-will-impact-sports/>
- <https://www.golfdigest.com/story/drones-will-change-the-way-we-watch-sports>
- <https://quadcopterarena.com/are-drones-the-future-of-sport-training/>
- <https://www.cbinsights.com/research/drone-impact-society-uav/>
- <https://www.fai.org/page/drone-sport>
- <https://dronerush.com/best-racing-drones-speed-agility-fpv-5971/>
- <https://dronelife.com/2017/02/08/drones-sports/>
- <https://www.coverdrone.com/5-ways-drones-can-be-used-in-sport/>
- <https://www.sportsmanagement.co.uk/Sports-features/sports-management-magazine/Technology-Game-of-Drones/31321>
- <https://www.nfhs.org/articles/legal-issues-related-to-use-of-drones-in-high-school-sports/>
- <https://dronerush.com/best-racing-drones-speed-agility-fpv-5971/>
- <https://www.cbinsights.com/research/drone-impact-society-uav/>