



DRONES COLLOQUIUM

Institute for Design and Communication

Drones in Sports

Information, Technology and Innovation

Research Group

infotechinno.sdu.dk



Drone technology maturity and accessible prices have made possible the increasing use of drones in different types of Sports:

SDU Extreme sports (self-documentation)



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* <https://www.thecoachingmanual.com/blog/drones-and-football-analysis>



- Sports Organizations use drones for sport reviews and events coverage
- Coaches use them to monitor and improve training strategies
- Advertising and Marketing companies to produce promotional material
- Individuals use them for Self-documentation

* <https://www.dronesetc.com/blogs/news/drones-use-for-recreation-and-sports>

SDU Challenges



- Safety
- Privacy
- Regulations
- Battery life
-



<https://www.youtube.com/watch?v=IAOzOIV3wm0>

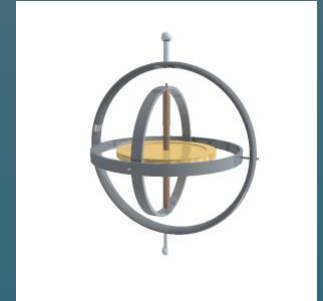
Drones specifically made for sports



Airdog*: foldable quadcopter, especially designed for filmmakers and action sports enthusiasts.

It follows using long range bluetooth (300mts)

Uses gimbal to stabilize footage and keep user in frame.



Modes:

Auto-follow

Relative position follow

Hover Aim fixed position turning to camera view

Circle



* <https://www.airdog.com/channel>

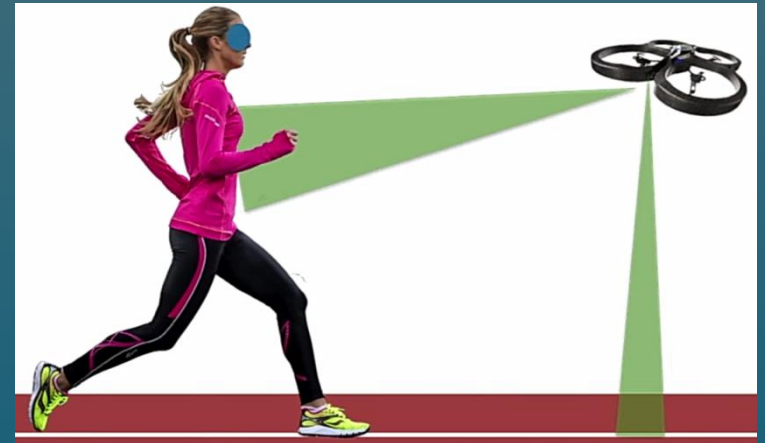
SDU Drone racing (FPV)



<https://giphy.com/gifs/drone-racing-expert-knJNEdN6zZgTC>



Guide Drones for Blind Athletes*



Feil-seifer, D., & Feil-seifer, D. (2016). Exploring the Use of a Drone to Guide Blind Runners, (January), 10–12. <https://doi.org/10.1145/2982142.2982204>



Boxing against drones*



“It was found that even in a simple exercise, the present day drone technology wasn’t fast and precise enough to provide a fluent sparring experience.”

“Present day drones could be used for boxing exercises in which no or minimum impact is required.”

*Paper, C., Philips, S. Z., Ivanova, E., Technische, B., Eindhoven, U., Robot, H., ... Barakova, E. I. (2016). Boxing against drones : Drones in sports education Boxing against drones : Drones in sports education, (January). <https://doi.org/10.1145/2930674.2935991>



Fencing with drones*



Fencing with drones could be used to improve technique.

But in this article they actually use fencing to train the drone to avoid obstacles in a smarter way.

* <https://www.youtube.com/watch?v=-DwfWd4ckhU>
<http://www.bbc.com/news/technology-36774315>



- Live coaching*
- Sensors that provide with the possibility of on the go data analysis and feedback.
- More portability and longer battery life.



* Ahmad, A., Michon, A., Nemes, R., Unteregger, R., & Wang, P. (2014). *Intelligent flying drone "Your fellow in the sky"*. University of Southern Denmark.



Questions?

Thanks!



Videos' Links

- Extreme sports:
<https://www.youtube.com/watch?v=30eAEx4ESIM>
- A drone crashes and almost kills Marcel Hirscher
<https://www.youtube.com/watch?v=IAOzOIV3wm0>
- Fencing with drones
<https://www.youtube.com/watch?v=-DwfWd4ckhU>
- Drone racing <https://giphy.com/gifs/drone-racing-expert-knJNEdN6zZgTC>