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SenseUAV

by gradient

Onboard Detect & Avoid
system for UAVs



SenseUAV by Gradient is an airspace surveillance system for UAVs that can be integrated with aircraft flight control to offer advanced **Detect & Avoid (DAA)** capabilities, and provide real-time, understandable and visual situational awareness.

Our system exploits the latest machine learning technology for detecting aircraft and other obstacles during flight using cameras onboard, thus reducing risks in operations around open spaces or critical infrastructure.

SenseUAV is also used to assist the pilot during flight and can incorporate third party sensors for extended collaborative and non-collaborative **support in BVLOS missions.**



AI-based detect & avoid technology for UAVs

Existing **detect & avoid solutions** have been conceived for large aircraft, and are therefore not adequate for smaller unmanned vehicles in terms of size, weight, power and cost.

No single detection technology can provide reliable collaborative and non-collaborative detection and avoidance. Human understandable visual awareness of the aircraft environment is crucial for operators, even in fully autonomous missions.

SenseUAV by Gradient adds an additional layer of safety to drone operations by incorporating **automatic obstacle and traffic detection:**

- ✓ Detection and tracking of all traffic and obstacles around the aircraft within a 1km radius
- ✓ Compact size of less than 500g, including camera and processing module, for easy deployment on small, medium and large aircraft
- ✓ Automatic low bit-rate visual reporting of obstacles and traffic to assist the operator in real time
- ✓ Open interfaces for integration with commercial flight control systems and third-party collaborative detection systems

SenseUAV by Gradient was the **winner of the 2020 Drone-vs-Bird Detection Challenge**, international competition focused on the detection and identification of drones and other objects in airspace.



Award winning AI technology



Real-time automatic obstacle and traffic detection



Visual situation awareness



BVLOS missions for surveillance, infrastructure inspection, delivery and search & rescue



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