

Lakshayalnani
CSE

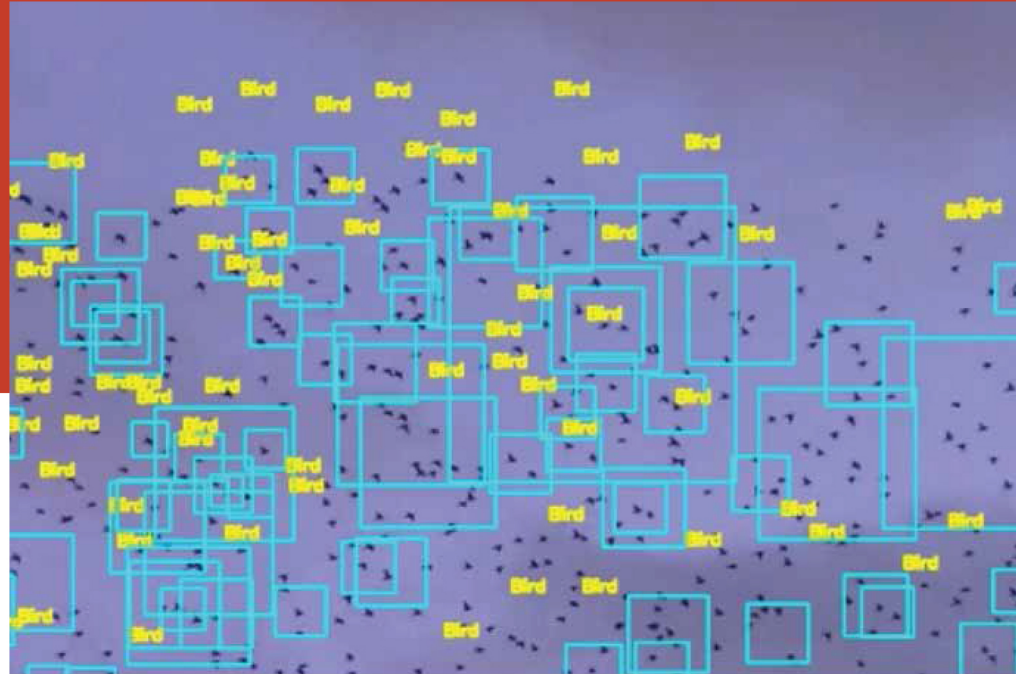
Madhukiran K
CSE

Kartik D Pandit
CSE

Kumar Himanshu
CSE

61 PROJECT

BIRD COLLISION AVOIDANCE SYSTEM ON AIRCRAFT (BCAS)



Airplanes are powered, fixed-wing aircraft propelled forward by thrust from a jet engine, propeller or rocket engine. When risk is measured by deaths per passenger kilometer, air travel is approximately 10 times safer than travel by bus or rail. The industry is constantly developing technologies and mechanisms to reduce the dangers of air travel, which may be caused due to engine failure, bird strike, turbulence, and thunderstorms.

A bird strike or Bird Aircraft Strike Hazard (BASH) are a significant threat to flight safety, and have caused a number of accidents with human casualties. There are over 4,000 bird strikes annually in India alone. Majority of bird strikes (~65%) cause little damage to the aircraft; however, the collision is usually fatal to the bird(s). Most accidents occur when a bird collides with the windscreen or is sucked into the engines of the mechanical aircraft. These cause annual damages that have been estimated at INR 25 crores within India and up to USD 1.2 billion worldwide. In addition to property damage, collisions between man-made structures and conveyances and bird is a contributing factor, among many others, to the worldwide decline of many avian species. A Bird Collision Avoidance System (BCAS) can be developed and implemented on an aircraft to prevent the bird strike.

Features

- The system automatically detects and recognises birds and deflect or cause deterrence in birds.
- Consists of stereo camera. Once an object is detected, it is analysed by a software, a proprietary sound signal like ultrasonic sound signal is used to deviate the bird