Video-Based Aircraft Detection for Collision Avoidance Purposes

Pascal Fua

EPFL

We are headed for a world in which the skies are occupied not only by birds and planes but also by unmanned drones. Some of these will carry transponders that make them easy to detect but not all. In addition to these unequipped drones, one must also account for other flying objects such as para-gliders, blimps, and even large birds that all constitute potential collision threats.

To allow aircrafts to safely navigate such a crowded environment without requiring heavy or expensive equipment, we have developed lightweight video-based systems that can detect threats using either-on-board cameras or ground-based ones. This work has been done in collaboration with several commercial companies and I will describe it in this talk.