
Title of the project

**Design of camera-equipped ground station
for air traffic visual detection**

Project description

The exponential increase in the number of drones along with other flying objects such as airplanes, helicopters parachutists etc. is a growing concern regarding potential collision threats. In this context, the CV-Lab in partnership with the company FLARM has developed a lightweight video-based system able to detect threats and alert the pilot and drone operators. Parallely, the Lausanne-based startup INVOLI is developing systems able to detect comprehensively flying objects for collision avoidance strategies.

This semester / master project intends to develop a ground-station system equipped with a fisheye camera, able to acquire visual data of air traffic. This project will focus on the acquisition of a dataset, with the end goal to use said dataset to train visual detection algorithms. The ground station will have to answer some imperatives related to its exterior installation as well as the requirement to capture images only when an aircraft is nearby.

Tasks

- Review literature on visual detection of air traffic and use of vision outdoor
- Design a ground station capable of acquiring images of nearby air traffic
- Interface with an air traffic data provider to trigger the camera system
- Acquire a dataset of air traffic from ground station

Contact

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