Lidars and Cameras in Rain and Dust environments
Master Thesis Proposal in Robotics and AI

Performing autonomous navigation with micro aerial vehicles (MAVs) is a challenging task in real-life scenarios. Specifically, the answer to the question “Where am I?” is the main challenge and solving it will open a wide range of applications for MAVs. The sensor suits of the MAVs got affected by external disturbances such as direct sunlight, rain, dust, etc. The main purpose of this thesis is to study the effect of these factors on different sensors and propose robust filtering schemes.

- The main aim is to consider 3D lidar, RGB camera and thermal camera and studies disturbances on their measurement.
- The project needs a good end demonstration with MAV and the participant should finally test her/his algorithm on real hardware.
- The participant has a weekly discussion with her/his supervisor in order to be guided.
- The Python/C++ knowledge is required and the method should be implemented in ROS in order to be validated and directly placed to the real platform for experiments.

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