

Control of an aerial manipulator

Master Thesis Proposal in Automatic Control



So far, multicopters have been used mostly for passively interacting with the environment (video recording, aerial mapping, environmental monitoring, etc.). These capabilities could be extended for physical interaction, by implementing aerial robotic workers performing infrastructure inspection and maintenance tasks under high-level supervision of human operators. In this framework, the flying platform is now considered as a floating base for a manipulator arm.

- The main aim is to consider UAV with manipulator and execute a task while contacting the object such as cleaning an area.
- Maintain a knowledge base about aerial manipulation.
- Contribute in developing the aerial manipulator.
- Design novel control schemes for operating the aerial manipulator mounted on the flying platform in a unified fashion.
- The project needs a good end demonstration and the method should be implemented in ROS in order to be validated and directly placed to the real platform for experiments.
- The participant has a weekly discussion with her/his supervisor in order to be guided.

Proposal from David Wuthier, Sina Sharif Mansouri and George Nikolakopoulos, Control Engineering Group, SRT

David Wuthier, david.wuthier@ltu.se

Sina Sharif Mansouri, Room A2578, sinsha@ltu.se

George Nikolakopoulos, Room A2556, geonik@ltu.se