**Design and Control of a Bicopter MAV**

https://sirop.org/files/opportunity-images/c527bc75-bb77-47f9-ae7f-ef938058442a/b05c181f-e879-4830-8e49-c597aef6eea4.JPG_100_100.JPG

Design and control of a UAV using only two rotors, and additional actuation to allow for full position and orientation controllability.

**Keywords:** MAV Control Design Omnidirectional

**Description**

Omnidirectional UAVs present numerous advantages over traditional UAVs for aerial interaction and unobstructed observation.

This project aims to develop a UAV using only two rotors, and additional actuation to allow for full position and orientation controllability.

As a semeter thesis, this project would target demonstration of the system in simulation. As a masters thesis, the project would include integration of a real platform and evaluation of real flight performance.

**Work Packages**

• Investigate morphology and actuation

• Evaluate controllability

• Design a controller for omnidirectional flight

• Test in simulation and evaluate performance

**If masters thesis:**

• Build system

• Flight testing and performance evaluation

**Requirements**

• c++ coding experience

• Knowledge of ROS recommended

**If masters thesis:**

• System integration experience