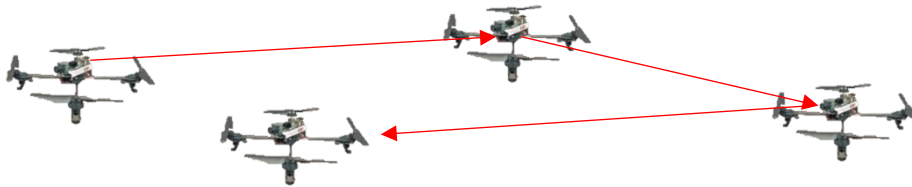


SA/MA “MAV Formation Flight using Vision/ultra wideband distance sensors for a flying VICON system”

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Introduction

Motion capture is the process of recording the movement of objects or people. These motion capturing systems, also called VICON systems, are normally room fixed and therefore not very mobile. We propose a novel way of motion capturing by our flying VICON system project. Using this, we want to extend this room fixed limitations by using a swarm of quadrotors flying in a formation to have a flying motion capturing system. The formation should be able to fly and track the target.

Thesis Description



To be able to fly in a stable formation, the MAV need some relative distance measurements and also a inter formation communication link. The first part of the thesis will be to build a flying swarm based on related work. The second step will be to evaluate the ultra-wide band communication network to use signal strength as a distance measurement.

Requirements

The ideal candidate has a solid background in Control and in Estimation as well as signal analysis. An interest in onboard programming, hands-on development and experimentation is also a requirement. Used programming language: C/C++ and Matlab Simulink.