



Key Development Points

The team's objective was to automate the operations of Missions 1 and 2. The team customized an eight-engine Kopis X8 aircraft to build a payload of about 1 kg to carry the computer and sensor systems that will be the brains of the automated operation. In addition, for freer exploration, the team is seeking a configuration that enables not only autonomy but also partial autonomy by building a pipeline that spoofs images from DJI aircraft and other sources and uses AI to recognize them on the GCS airframe.

To begin with, STM is supposed to be a 'field that anyone can build', so we are building a field that can be purchased at a home improvement store to study the search. This would cost about ¥ 100,000!



Team Introduction

【Motivation and Beginning】

- The University of Aizu is a well-established company that has been in the Robot STM and Simulation Challenge since the WRS2018 Pre-Competition. Since two drone-related events (HEDC) were organized this year, we decided to team up with students to compete as UoA_Flight, led by Dr. Yaguchi, who conducts drone-related research.

【Difficulty】

- The most difficult task was to develop an aircraft that would serve as the foundation on which to place the information processing system. Although the University of Aizu is a university specializing in computers, it does not have a curriculum for building hardware for machines and robots, so the project started by hand. Therefore, there were difficulties in customizing a small aircraft under non-GPS conditions.

【Future Vision】

- Even if Mission 1 and 2 score zero, this is where the University of Aizu's research begins. Even if information processing systems such as image processing are strong, computer shops are weak without something that works.... We would like to share the prototype of the foundation for this, and in addition to that, we would like to share the "field-oriented" approach with our students, so that we can continue our research on higher level, especially on the use of multiple machines in such a small space.



Role	Name	Affiliation/Position	Areas of expertise, research fields
Team Leader	Yuichi Yaguchi	Senior Associate Professor, Univ. of Aizu	Image Processing, UAS Traffic Management System