XTEND

HUMAN | MACHINE TELEPRESENCE

Flight Control Engineer Test

Answer the following questions and sent it to the mail below as you finish. You may feel free to use any program / research / internet information, as long as you do it by yourself.

1. In the data attached you will find the velocity readings of two different sensors. Preliminary knowledge assures that each one of the sensors separately enables “position hold” (maintain the drone’s position in the air without drastic movements). For better position estimation and better position hold, choose a method to extract the best estimation from these two sensors and calculate the velocity and the position of the drone during all time. Keep the algorithm real time and efficient (CPU/Memory wise) as possible.

   If there is any missing data in the file you are free to provide it by yourself. If you do so, explain its purpose and how can you achieve this data during flight.

2. Using ROS (1 or 2), simulate a robot flying/driving in a clustered environment. You may choose your sensors, and/or use gazebo data for the position estimation. The movement should mainly be autonomous.

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