

# Étude et réalisation d'un système embarqué pour le Contrôle et l'aide à la navigation d'un quadri-rotors.

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**Soutenue en: 2021**

**Abstract:** This work consists firstly in the realization of an autopilot board for Quad-rotor basedon the ARDUINO MEGA development board. The latter must be able to acquire and processinformation from sensors: MPU6050 (The accelerometer, the gyroscope, the magnetometer)and the GPS sensors in real time to command and control the Quad-rotor. The resultsobtained by the sensors must be displayed on a graphical interface representing the groundstation. The second part is to realize and embark of a navigation aid system based onultrasonic sensors.

**Keywords :** Quad-rotor, autopilot, Arduino MEGA, GPS, MPU6050, ground station, real time, Ultrasound