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## Estimation of Atmospheric CO<sub>2</sub> using MQ-135 Sensor Mounted on A Quadcopter

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### ABSTRACT

*The phenomenon of Global Warming is the increase of Earth's average surface temperature due to effect of greenhouse gases, such as carbon dioxide, emissions from burning fossil fuels, deforestation which confine the heat that would otherwise emanate from Earth's atmosphere. The slightest increases in atmospheric levels of carbon dioxide (CO<sub>2</sub>) can cause a significant increase in temperature. The level of CO<sub>2</sub> has increased with times by lot of factors like increased vehicle use, industrialization, increase in population and urbanization. In order to collect data and monitor the levels of atmospheric CO<sub>2</sub>, a Quadcopter which can achieve vertical flight in a stable manner and can follow a designed path of flight autonomously with very high accuracy, was used in this present work. This Quadcopter can collect samples in atmosphere in a specific region. The values of CO<sub>2</sub> and other parameters are transmitted by using MQ135 gas sensor, an air quality sensor which can detect a wide range of gases, including NH<sub>3</sub>, NO<sub>x</sub>, alcohol, benzene, smoke and CO<sub>2</sub>. The Output from the sensor is processed by the microcontroller and is communicated wirelessly using a Wi-Fi module to an Android operating system based Wi-Fi enabled device.*

### Keywords

*Global Warming, greenhouse gases, carbon dioxide, Quadcopter, autonomous.*