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(57) Abstract :
The present invention relates to a method and system for fabricating a long-range surveillance hexacopter drone. The drone features a frame composed of aluminum and carbon fiber, six brushless DC motors for propulsion, and a multi-rotor control board for flight stability. Electronic speed controllers (ESCs) manage motor speed and direction, while servo motors control the tilt angle of the brushless motors for precise maneuverability. A Lithium Polymer (Li-Po) battery powers the drone, with a telemetry system providing real-time communication through a 2.4 GHz radio frequency transmitter and receiver, and Wi-Fi for video transmission. The drone is designed for surveillance and reconnaissance applications, incorporating landing gear for smooth takeoff and landing. Additional features include high-definition cameras, GPS modules for tracking, and a proportional-integral (PI) control system to ensure stability during flight. This system is designed for a wide range of applications, including law enforcement, traffic accident reconstruction, and emergency response. Accompanied Drawing [FIG. 1]

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