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AI Based Multipurpose Military Drone

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Abstract: *The emergence of artificial intelligence (AI) and autonomous aerial systems has transformed the landscape of both defense and humanitarian operations. This paper introduces an innovative concept of an AI-based multipurpose military drone that integrates hybrid mesh + LTE communication networks to provide temporary connectivity in remote or satellite-shadowed regions. The proposed system is designed to perform a variety of tasks such as surveillance, payload transport, crowd management, criminal tracking, and disaster response. The drone leverages AI-driven navigation, sensor fusion, and autonomous path optimization to execute missions efficiently under diverse environmental conditions. Built with lightweight, modular, and portable architecture, it ensures rapid deployment and adaptability. The study explores the design methodology, communication framework, ethical considerations, and performance analysis of this system, emphasizing its dual-use potential in both military and civilian contexts. By uniting AI, IoT, and next-generation networking, the proposed drone aims to enhance situational awareness, operational efficiency, and safety in mission-critical environments.*

Keywords: AI-based UAV, Mesh + LTE Networking, Military Communication, Disaster Management, Surveillance, Crowd Control, Criminal Tracking

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