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(57) Abstract :
Abstract The present invention discloses an Autonomous Target Striking Vehicle system designed for patrolling and threat detection. The system comprises advanced navigation capabilities, an integrated threat detection system, and a multi-level response management framework. The vehicle's navigation is powered by an AI-driven Graph Neural Network (GNN) based routing algorithm, ensuring optimal path finding and maneuverability in complex environments. The threat detection system processes real-time data from multiple sensors, employing machine learning algorithms for filtering, pre-processing, segmentation, feature extraction, and threat analysis. The response management framework is structured into three levels: top-level command, middle-level supervision, and operational execution, involving roles such as tactical analysts, system operators, and field agents. This comprehensive system enhances situational awareness, enables autonomous threat response, and ensures secure communication with command centers, addressing the critical needs of modern applications.

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