

Smart Rescue Boat

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Abstract: *This project focuses on the design and development of a compact and efficient Rescue Boat system intended for emergency water rescue operations, with particular emphasis on large-scale gatherings such as the Kumbh Mela, where overcrowding near rivers significantly increases the risk of accidents and drowning. The rescue boat is designed to operate safely and efficiently while being remotely controlled from a safe distance, allowing rescue personnel to respond quickly without endangering themselves. It is equipped with propulsion motors to provide movement in water, a servo motor for releasing lifejackets—a major part of the life-saving mechanism—and an CAM to provide real-time video streaming to a local server, enabling continuous monitoring by the controller stationed onshore.*

Keywords: IoT, STM32 microcontroller, CAM, wireless control, live video streaming, disaster management, flood rescue, embedded systems, Wi-Fi communication

