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(57) Abstract :
Disclosed herein is an autonomous fire-extinguishing nanobot system for rapid fire detection and suppression (100) comprises a nanobot body (102) structurally designed to navigate through confined and hazardous environments. The system also includes a thermal sensor module (104) configured to detect thermal radiation or temperature variations. The system also includes a flame detection unit (106) operable to identify fire occurrences. The system also includes a Wi-Fi communication module (108) configured to establish wireless communication with Android mobile devices. The system also includes a heat-intensity-based positioning sensor unit (110), calculates the most immediate and effective path toward the origin of fire. The system also includes a pumping unit (112) incorporating a microfluidic water-spray mechanism. The system also includes a servo motor unit (114) having low-RPM and high-torque capability enabling autonomous stair climbing and movement through uneven or obstructed paths.

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