

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541032226 A

(19) INDIA

(22) Date of filing of Application :01/04/2025

(43) Publication Date : 02/05/2025

(54) Title of the invention : A System for Autonomous UAV-Assisted Disaster Response and Method Thereof

(51) International classification :H04W0004900000, G06Q0050260000, H04B0007185000, G08B0025010000, G08B0021100000

(86) International Application No :NA
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA
Filing Date :NA

(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :

1)Dr. R. Gunasekaran

Address of Applicant :Professor Department of Computer Technology Anna University, MIT Campus Chennai-600044 Chennai -----

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)Selva Ragul Kumar

Address of Applicant :9/51, Oththa Veetu Street, Koodankulam, Radhapuram, Tirunelveli, Tamilnadu, India - 627106 Tirunelveli -----

2)J B Mugundh

Address of Applicant :No 27, 2nd floor, Kumara Illam, Beemeswaran Kovil Street, West Tambaram, Chennai, Tamilnadu, India - 600045 Chennai -----

3)Theodore Philip

Address of Applicant :1-1/75, Ganapathy Nagar, Mohan Nagar Post, Salem, Tamilnadu, India - 636030 Salem -----

4)Hirthik Raj A

Address of Applicant :2/549, B-3 Min Nagar, Ariyalur, Tamilnadu, India - 621704 Ariyalur -----

5)Selvam Essaky

Address of Applicant :PhD Student, Department of Computer Technology, Anna University, MIT Campus, Chennai, Tamilnadu, India - 600044 Chennai -----

(57) Abstract :

ABSTRACT: Title: A System for Autonomous UAV-Assisted Disaster Response and Method Thereof An autonomous UAV system (100) for disaster response is disclosed, featuring real-time resource allocation, redundancy in rescue operations, and continuous LoRa connectivity during navigation. The UAV system supports a WiFi network (101), a LoRa-based backhaul communication network (102) for long-range message transmission and efficient coordination of rescue operations. It facilitates communication with first responders over long distances, providing emergency information to ground stations. The system (100) utilizes AI models, including MobileBERT for emergency message classification and YOLOv8 for multimedia content analysis. It enables direct communication with survivors and employs terrain-aware UAV navigation with of Action Space Provider (ASP) generator driven and fuzzy-based path planning module (104). The system (100) also handles various media content, including video and audio, ensuring effective disaster response. The present invention also describes a method (200) in which the survivors can establish a communication with the rescue team or first responders. Main Illustrative: Figure 1

No. of Pages : 20 No. of Claims : 8