

(54) Title of the invention : Autonomous Drone Swarm System for Real-Time Aerial Surveillance and Data Collection

(51) International classification :B64C0039020000, G05D0001000000, G08G0005000000, H04N0007180000, B64U0101300000

(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)St. Peter's Engineering college

Address of Applicant :St. Peter's Engineering College, Opp. Forest Academy, Kompally Road, Dullapally, Maisammaguda, Medchal, Hyderabad - 500100, Telangana, India. Hyderabad -----

2)Mr.Angothu Govind**3)Dr. K. Satish Kumar****4)Mr.Purushottam Maramamula****5)Mr.Polishetti Raghu****6)Dr M. Neelakantappa****7)Mr.M Kiranmayi****8)Mr.Abdul Subhahan Shaik****9)Mr.S.Akhilendranath****10)Dr.Amjan Shaik****11)Dr.R.Venkat**

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)Mr.Angothu Govind

Address of Applicant :Assistant Professor, Department of ECE, St. Peter's Engineering College, Opp. Forest Academy, Kompally Road, Dullapally, Maisammaguda, Medchal, Hyderabad - 500100, Telangana, India. Hyderabad -----

2)Dr. K. Satish Kumar

Address of Applicant :Associate Professor, Department of CSE, Mahatma Gandhi Institute of Technology, Gandipet, Ranga Reddy District, Hyderabad- 500075, Telangana, India. Hyderabad -----

3)Mr.Purushottam Maramamula

Address of Applicant :District R&B Officer, R&B Department, H.No 1-4-367/1, Road No.14, Satya Nagar Colony, Kothapet, Hyderabad-500035,Telangana, India. Hyderabad -----

4)Mr.Polishetti Raghu

Address of Applicant :HoD of CSE(AI&ML), Siddhartha Institute of Engineering and Technology, Vinobha Nagar, Ibrahimpatnam, R.R. Dist-501506, Telangana, India. Hyderabad -----

5)Dr M. Neelakantappa

Address of Applicant :Associate Professor, Department of IT, Vasavi College of Engineering, Hyderabad. Hyderabad -----

6)Mr.M Kiranmayi

Address of Applicant :Assistant Professor, Department of ECE, Siddhartha Institute of Technology and Sciences, Korremula(V), Ghatkesar-500088, Hyderabad, Telangana, India. Hyderabad -----

7)Mr.Abdul Subhahan Shaik

Address of Applicant :Research Scholar, Department of CSE, Bharatiya Engineering Science & Technology Innovation University, Gownivariipalli, Gorantla, Anantapur, Andhra Pradesh, India. Anantapur -----

8)Mr.S.Akhilendranath

Address of Applicant :Research Scholar, BEST Innovation University, Gownivariipalli, Gorantla, Anantapur, Andhra Pradesh, India. Anantapur -----

9)Dr.Amjan Shaik

Address of Applicant :Professor of CSE and Dean R&D Cell, St. Peter's Engineering College, Opp. Forest Academy, Kompally Road, Dullapally, Maisammaguda, Medchal, Hyderabad - 500100, Telangana, India. Hyderabad -----

10)Dr.R.Venkat

Address of Applicant :Associate Professor, Department of CSE, St. Peter's Engineering College, Opp. Forest Academy, Kompally Road, Dullapally, Maisammaguda, Medchal, Hyderabad - 500100, Telangana, India. Hyderabad -----

(57) Abstract :

The Autonomous Drone Swarm System for Real-Time Aerial Surveillance and Data Collection is an innovative approach to enhancing surveillance capabilities using a network of autonomous drones. These drones, equipped with advanced sensors and communication technologies, work in synergy to cover large areas efficiently, providing real-time data collection and monitoring. The system utilizes swarm intelligence algorithms that enable the drones to communicate, collaborate, and adapt to dynamic environments. This allows for optimized flight paths, obstacle avoidance, and task delegation, ensuring that the drones operate effectively even in complex and unpredictable scenarios. The drones can capture high-definition images, video footage, environmental data, and other sensor inputs, which are then processed in real-time to provide actionable insights for various applications such as security, disaster management, agriculture, and infrastructure monitoring. By leveraging edge computing and cloud technologies, the system can handle large volumes of data while ensuring low-latency communication and decision-making. Furthermore, the autonomous nature of the drones reduces the need for human intervention, making the system more scalable, cost-effective, and suitable for prolonged operations.

No. of Pages : 20 No. of Claims : 10