(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :23/11/2024
(21) Application No.202441091286 A
(43) Publication Date : 29/11/2024

(54) Title of the invention : ELEPHANT HERDING OPTIMIZATION AD HOC ON-DEMAND MULTIPATH DISTANCE VECTOR ROUTING PROTOCOL FOR MANET

(51) International classification	:H04W0084180000, H04L0045000000, H04W0040240000, H04W0040100000, H04W0040280000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)Kamesh M
Address of Applicant :Assistant Professor, Department of Electronics and Communication Engineering, Velammal Institute of Technology, Panchetti- 601204, Tiruvallur District, Tamil Nadu, India. ---------- ----------
2)Diinesh Kumar MP
3)Praveen P
4)Sanjay Kumar G
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Kamesh M
Address of Applicant :Assistant Professor, Department of Electronics and Communication Engineering, Velammal Institute of Technology, Panchetti- 601204, Tiruvallur District, Tamil Nadu, India. ---------- ----------
2)Diinesh Kumar MP
Address of Applicant :Student, Department of Electronics and Communication Engineering, Velammal Institute of Technology, Panchetti- 601204, Tiruvallur District, Tamil Nadu, India ---------- ----------
3)Praveen P
Address of Applicant :Student, Department of Electronics and Communication Engineering, Velammal Institute of Technology, Panchetti- 601204, Tiruvallur District, Tamil Nadu, India ---------- ----------
4)Sanjay Kumar G
Address of Applicant :Student, Department of Electronics and Communication Engineering, Velammal Institute of Technology, Panchetti- 601204, Tiruvallur District, Tamil Nadu, India ---------- ----------

(57) Abstract :
[01] We propose an on-demand multipath distance vector routing protocol for mobile ad hoc networks, referred to as Ad hoc On-Demand Multipath Distance Vector (AOMDV), which extends the Ad hoc On-Demand Distance Vector (AODV) protocol. AOMDV ensures loop-free and disjoint alternate paths, enhancing network resilience. To optimize energy efficiency, we integrate a bio-inspired Elephant Herd Optimization (EHO) approach. Nodes are classified into two categories based on their residual energy, and data transmission paths are chosen from the fittest class, minimizing the likelihood of path failure and reducing the number of dead nodes caused by high data loads. EHO dynamically updates node classes using a separating operator after each transmission round. Simulation results using ns-2 show that AOMDV outperforms AODV in handling mobility-induced route failures. The protocol reduces packet loss by up to 40%, significantly lowers end-to-end delay (by more than a factor of two in some cases), and decreases routing overhead by 30% by minimizing route discovery frequency. Moreover, the EHO-AOMDV approach achieves a higher packet delivery ratio, reduced average energy consumption, fewer dead nodes, and lower routing overhead compared to traditional methods, making it an energy-efficient and reliable solution for dynamic mobile ad hoc networks.. Accompanied Drawing [FIG. 1] [FIG. 2] [FIG. 3] [FIG. 4] [FIG. 5] [FIG. 6] [FIG. 7] [FIG. 8] [FIG. 9] [FIG. 10] [FIG. 11] [FIG. 12]

No. of Pages : 25 No. of Claims : 5