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(57) Abstract :
An AI-optimized congestion-resistant mesh networking system (100) for disaster recovery is disclosed. This system features a network of decentralized nodes (102) interconnected to form a robust mesh network (104). It employs AI-based adaptive routing algorithms (108), intelligent congestion forecasting mechanisms (112), and traffic management through AI-prioritized classification (110). To maintain consistent communication, the system reroutes data along the most viable paths and minimizes energy consumption using AI-integrated health monitoring modules (114). Designed for deployment in disrupted environments, the invention offers improved reliability, operational efficiency, and resilience, enabling scalable and autonomous network functionality under critical conditions.

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