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(57) Abstract :
The present disclosure provides a system and methods for traffic flow prediction based on the fog-enabled federated deep learning technique. The method (100) involves the step of connecting a plurality of clients (204) to a server (201) and enables them for image classification. The images are classified based on both IID and non-IID data to maintain user privacy. Subsequently, a prediction model is trained at the client's end and forwarded to the server (201) for combining with other models. The combined model is then used to predict traffic flow patterns, which are made available to the connected clients for utilization. Further, the system (200) for traffic flow prediction is disclosed. The disclosed system (200) and method (100) address the technical challenges associated with traffic prediction, offering enhanced accuracy, privacy protection, and resource optimization.

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