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(51) International classification	:G06N 20/00, G06F 21/62, G06F 21/60, H04L 9/40, H04L 9/08	(71)Name of Applicant : 1)NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
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(57) Abstract :

A privacy-preserving data sharing system using federated learning comprises a coordination server (101), participant registry (102), model orchestration engine (103), secure aggregation module (104), audit ledger (105), and participant nodes (107) having local data vaults (108), local learning engines (109), policy enforcement modules (110), and privacy controllers (111). The coordination server (101) distributes a global model for local training while raw datasets remain local. Participant updates are policy checked, privacy hardened, encrypted, validated, and aggregated to generate a revised model, thereby enabling secure collaborative analytics with auditable governance and reduced information leakage.

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