# Blockchain-Assisted Secure Service Placement in Edge Networks

## Placement Controller

- Filter nodes: $T_i >$ T_threshold
- Rank by (trust, resources, reliability)
- Select best node and deploy
- Record placement (on-chain)

## Trust Manager

$$T_i = \alpha \cdot S + \beta \cdot A - \gamma \cdot F + \delta \cdot R$$
(Recency Weighted Trust)

Query Trust Scores

Record Placement Txn

Trust Updates

Read Events
(Behavior/Results)

## Lightweight Blockchain Layer

| Block 1 | Block 2 | Block 3 | Block 4 |

*node_reg • trust_update • placement_log*

Validator 1   Validator 2   Validator 3

Deploy Service / Notify Node

Signed Transactions
(Node Registration / Task Results)

## Edge Nodes

Node 1   Node 2   Node 3   Node 4   Node 5

Off-chain DB
(Encrypted Logs)

Service Requests / Data

## Edge Devices

IoT Sensors   Mobile Devices   Cameras   Smart Displays   Printers