

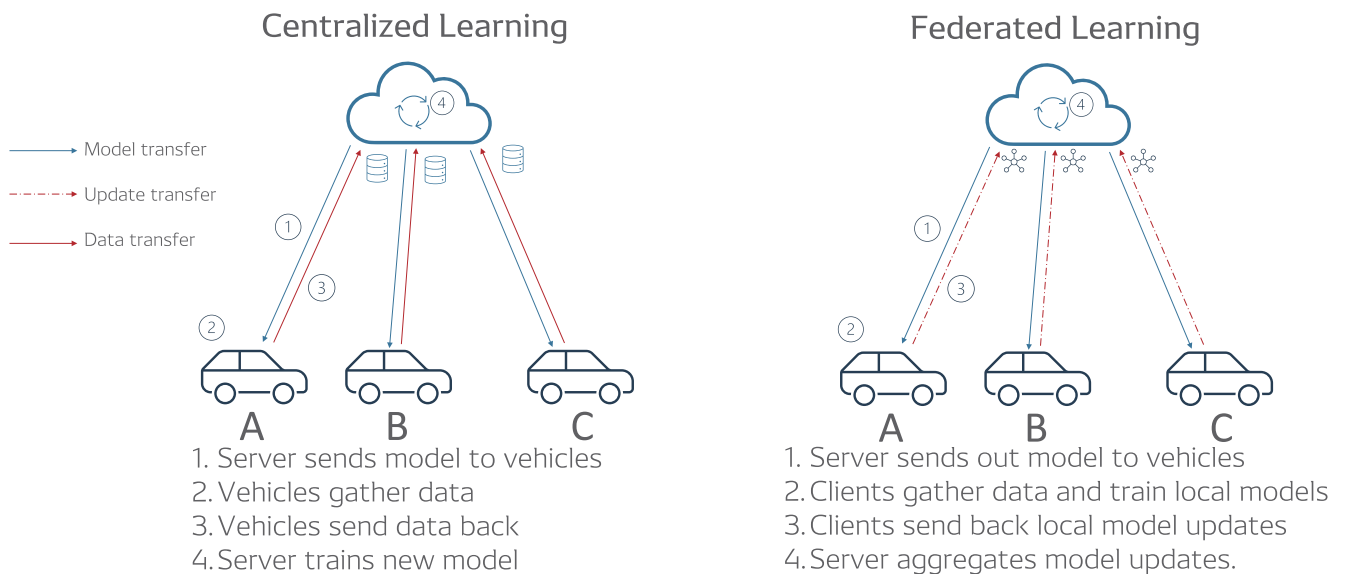
Federated Learning for Automotive Applications

Privacy-Aware Distributed Machine Learning

Highlights

- Private data do not leave vehicles, resource and communication efficient.
- Starting to see real-world applications in automotive: Driver Monitoring, Road Characterization, Energy Consumption, Personalization etc.
- Federated Learning enables many automotive applications.

Overview



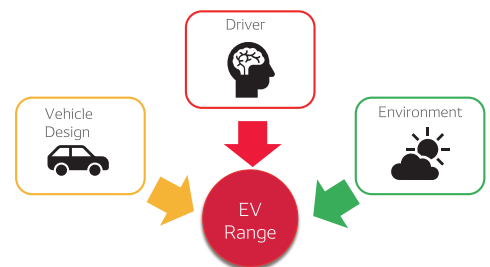
Driver Monitoring



Pavement Analysis



Energy Consumption



Insights

- Can outperform centralized learning in terms of accuracy.
- New frameworks enable privacy-aware computation with encryption techniques and run successfully on edge devices.
- Challenges include labelling on the edge, personalization, and efficient communication.