

# What is **federated learning**?

Federated learning [1, 2] is a kind of distributed learning.

How does **federated learning** differ from **traditional distributed learning**?

1. Users have control over their device and data.
2. Worker nodes are unstable.
3. Communication cost is higher than computation cost.
4. Data stored on worker nodes are not IID.

## References

1. McMahan and others: [Communication-efficient learning of deep networks from decentralized data](#). In *AISTATS*, 2017.
2. Konevcny, McMahan, and Ramage: [Federated optimization: distributed optimization beyond the datacenter](#). *arXiv:1511.03575*, 2015