Multi-Global Models for Edge Computing Environment

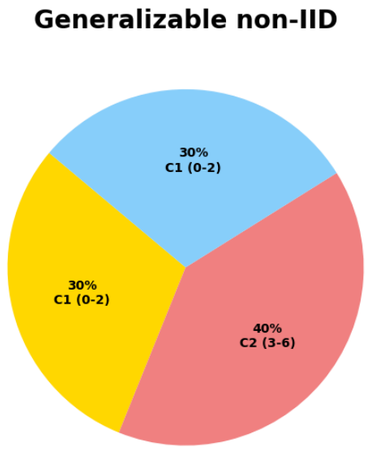
Satwat Bashir, Tasos Dagiuklas, Kasra Kassai, Muddesar Iqbal

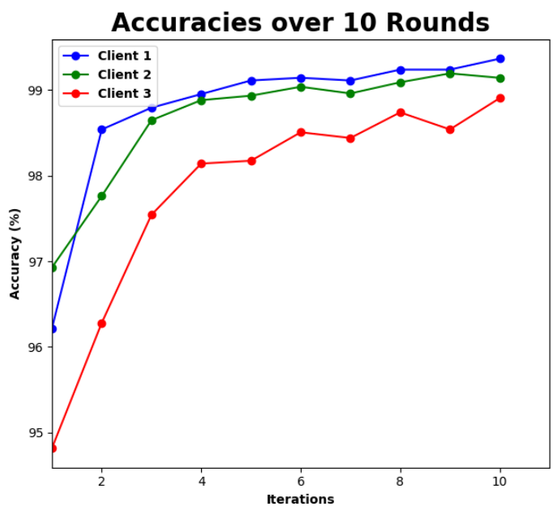
Department of Computer Science, London South Bank University, London, UK

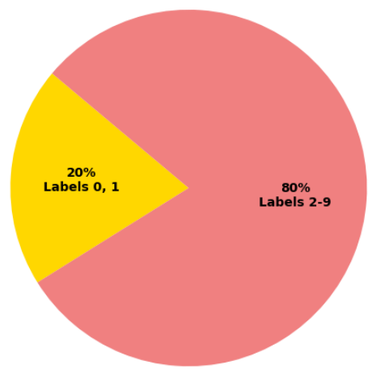
{bashis11,tdagiuklas,kasra.kassai, m.iqbal}@lsbu.ac.uk

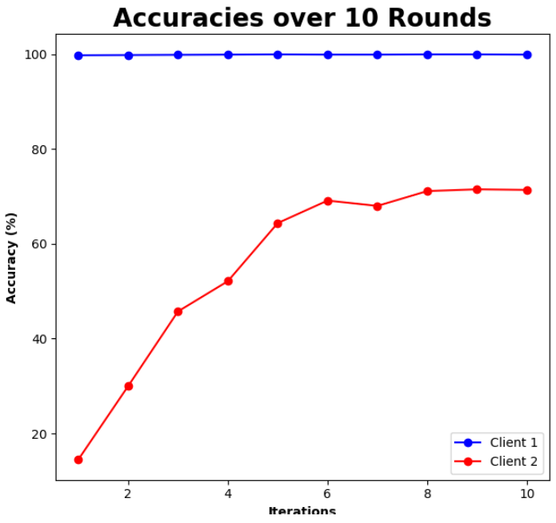
Outcomes

Empirical evaluations, utilizing the MNIST dataset under various non-IID scenarios, have shown that our proposed architecture outperforms traditional FL frameworks in terms of accuracy, scalability, and efficiency.



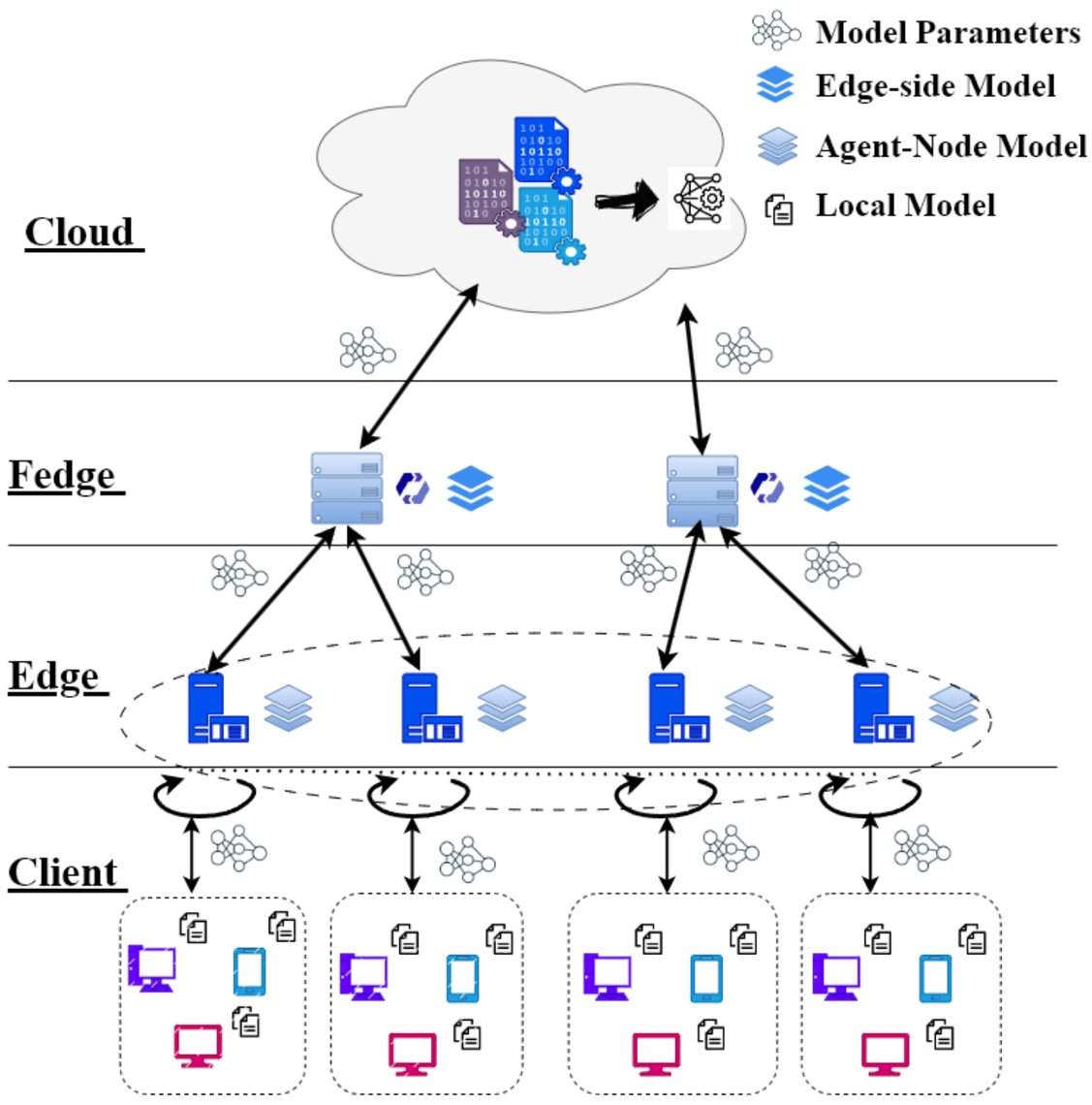




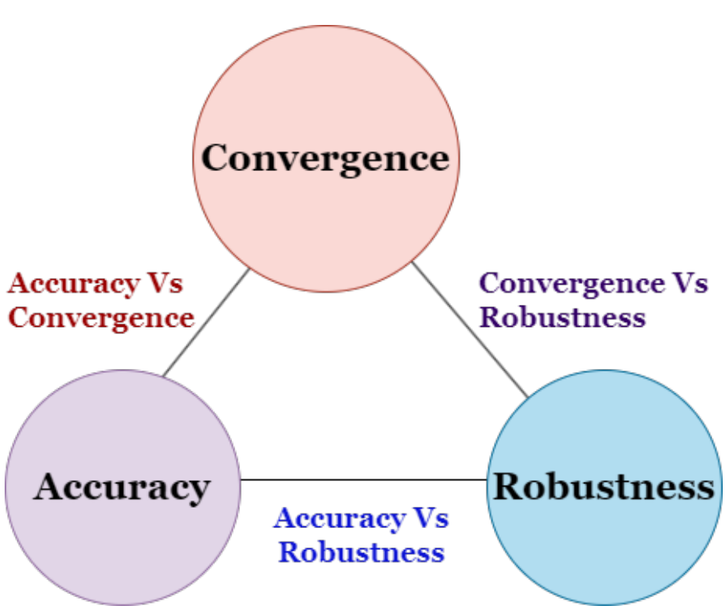


Methodology

- Incorporates a two-level aggregation approach to refine model updates.
- Transition towards Multi-Global Model Architecture



Hierarchical attention & Clustering dynamically allocates computational resources at edge and fedge layers.
Fedge intelligence clustering techniques to organize and update its repository of global models.



Contact

SuITElab.io

London South Bank University

EST 1892