**Federated Learning with Model Fusion for Multimodal Healthcare AI**

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Due to privacy concerns over the sharing of patient healthcare data, federated learning (FL) has emerged as a solution for collaborative AI model training across the different participants. Furthermore, different hospital networks include different ancillary services where data is collected and stored. This necessitates the creation of multimodal AI models that can work on different types of data to perform individual tasks that are needed by the ancillary services. Thus, this work proposes the integration of federated learning and model fusion across the different hospital networks and ancillary services. We leverage inter-network federated learning across similar ancillary services to create federated learning models with diverse information. Afterwards, intra-network model fusion is done among different ancillary services to create a multimodal AI network capable of performing a diverse set of tasks. Finally, we leverage client personalization and fairness metrics across the different participating hospitals to obtain an FL model robust across a large data distribution.