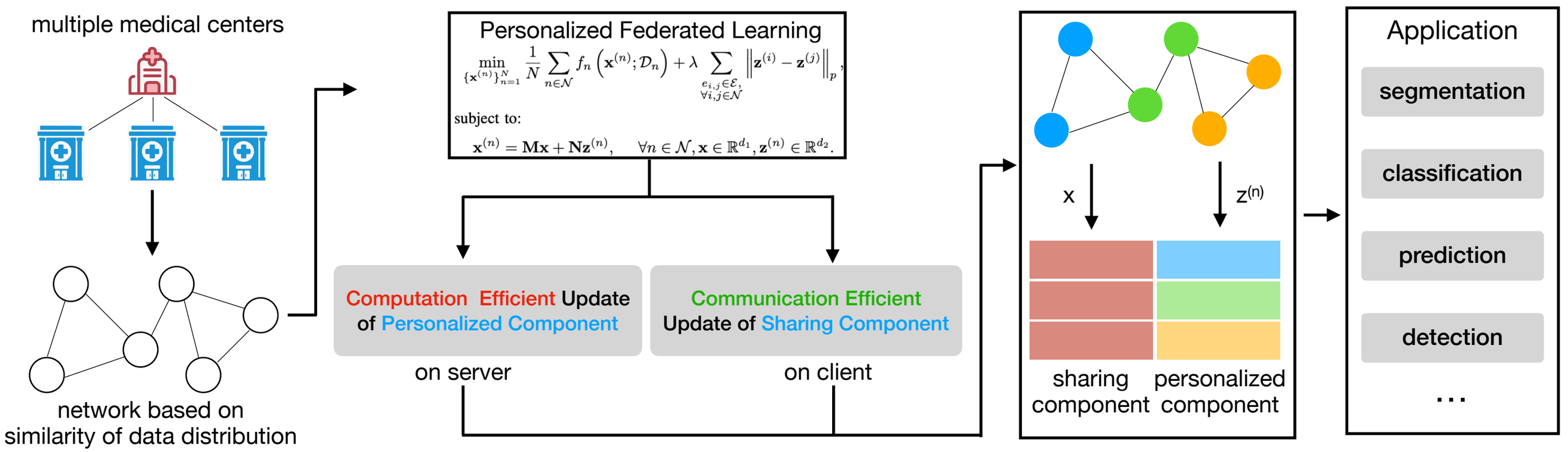
multiple medical centers
network based on
similarity of data distribution
Personalized Federated Learning
$\min_{\{\mathbf{x}^{(n)}\}_{n=1}^{N}} \frac{1}{N} \sum_{n \in \mathcal{N}} f_n\left(\mathbf{x}^{(n)}; \mathcal{D}_n\right) + \lambda \sum_{\substack{e_{i,j} \in \mathcal{E}, \\ \forall i,j \in \mathcal{N}}} \left\|\mathbf{z}^{(i)} - \mathbf{z}^{(j)}\right\|_p,$
subject to:
$\mathbf{x}^{(n)} = \mathbf{M}\mathbf{x} + \mathbf{N}\mathbf{z}^{(n)}, \quad \forall n \in \mathcal{N}, \mathbf{x} \in \mathbb{R}^{d_1}, \mathbf{z}^{(n)} \in \mathbb{R}^{d_2}.$
Computation Efficient Update
of Personalized Component
on server
Communication Efficient
Update of Sharing Component
on client
x
z(n)
sharing
component
personalized
component
Application
segmentation
classification
prediction
detection
...