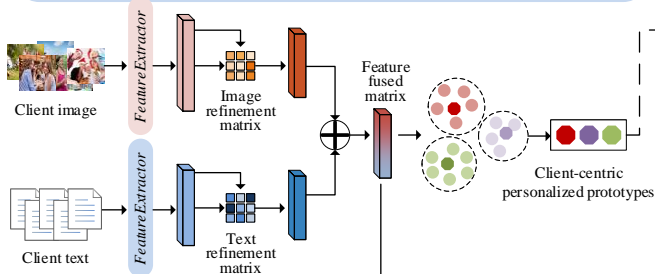
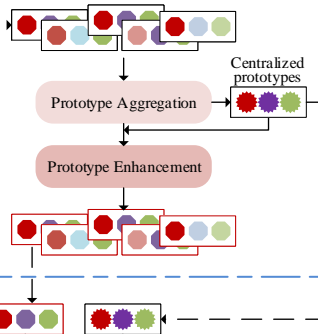


## Step1: Client-centric Personalized Proto-Learning



## Step2: Server-directed Aggregation and Enhancement



Update  
Update

Server

Overall architecture

Local Contrastive Loss  
Global Contrastive Loss

ImageNet  
TextNet

Local models

Relaxed  
hash codes

Label

Hash Optimization Loss

Hash codes

0 1 0 1 1 0

## Step3: Comprehensive Proto-based Hash Optimization