

IDEA → MBS HAS AUXILIARY NETWORK THAT DYNAMICALLY SETS THE SIMULATION PARAMETERS AS ROUNDS ELAPSE, BASED ON CURRENT/PAS PARAMETERS AND ON GLOBAL MODEL TRAIN/TEST ACCURACY CURVES.

THE AUXILIARY MODEL WILL TRY TO, SIMULTANEOUSLY,:

- 1) MAXIMIZE TRAINING SET ACCURACY (MAX LEARNING)
- 2) MINIMIZE ACCURACY DIFFERENCE BETWEEN TRAIN SET AND TEST SET (MAX GENERALIZATION)
- 3) MINIMIZE ROUND TIME (DOWNLOAD + LEARN + UPLOAD)

MINIMIZING THE COMPOSITE LOSS

$$\mathcal{L} = -\lambda_1 \mathcal{L}_1 + \lambda_2 \mathcal{L}_2 + \lambda_3 \mathcal{L}_3$$

OPEN QUESTIONS →

- Which parameters can be optimized?
- How do you train the aux. network?
- How often can the parameters be changed?
- How do you ensure stability / convergence of the HFL system?