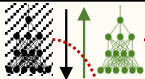


FL protocol

Server



Language model

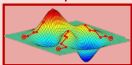
was the child running to the car?
mary is shorter than five feet.
...

Local dataset

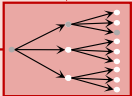
GRAB approach



Sampling



Continuous optimization



Discrete optimization

X

Recovered data

GRAB running example

Initialization

convince bahadurviere cast mi .
visitzee was oregon owed diet

Iteration 0

Continuous step

was the to the running car child?
put shorter than than mary is begun

Discrete step 0

was the car running to the child?
mary is than shorter is than shorter

Discrete step 1

was running to the car the child?
mary is shorter than is shorter than

Iteration 1

Continuous step

was child to the car the running?
mary feet shorter than five is.

Discrete step 0

was running to car the the child?
mary is than shorter five feet.

Discrete step 1

was running to the car the child?
mary is shorter than five feet.

Recovered example

was running to the car the child?
mary is shorter than five feet.