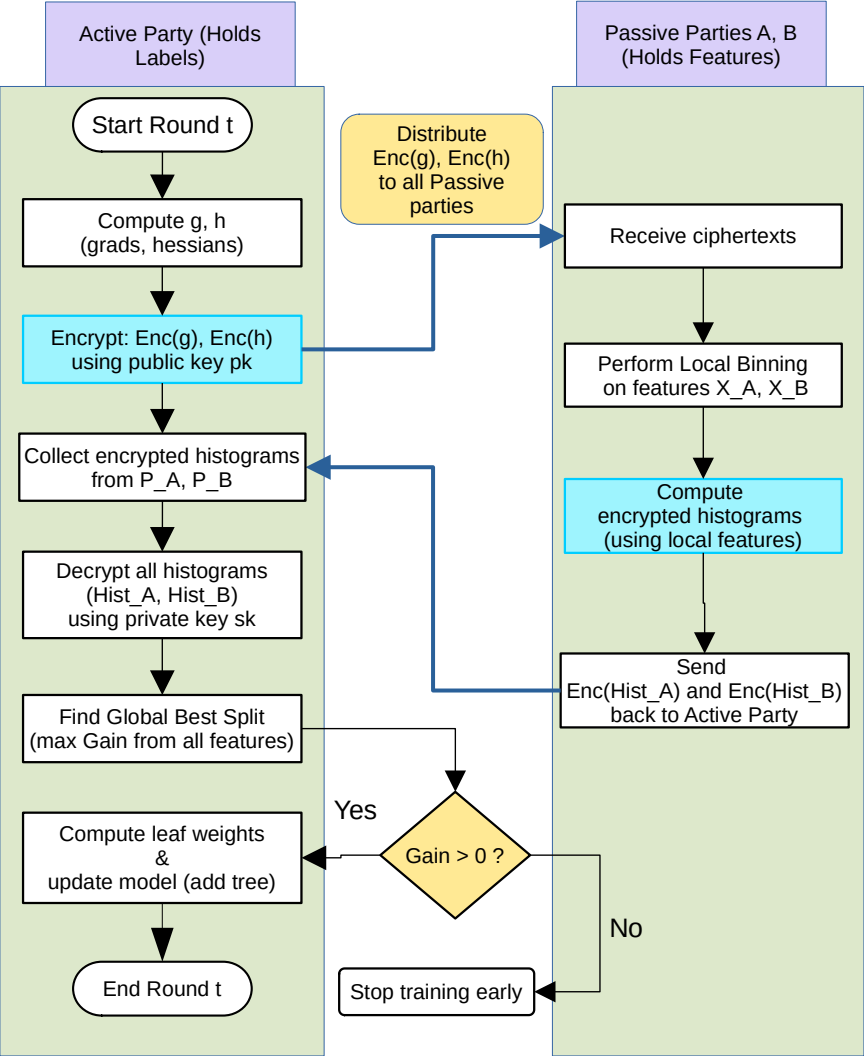
Active Party (Holds Labels)
Passive Parties A, B (Holds Features)
Start Round t
Compute g, h (grads, hessians)
Encrypt: Enc(g), Enc(h) using public key pk
Collect encrypted histograms from P_A, P_B
Decrypt all histograms (Hist_A, Hist_B) using private key sk
Find Global Best Split (max Gain from all features)
Compute leaf weights & update model (add tree)
End Round t
Distribute Enc(g), Enc(h) to all Passive parties
Receive ciphertexts
Perform Local Binning on features X_A, X_B
Compute encrypted histograms (using local features)
Send Enc(Hist_A) and Enc(Hist_B) back to Active Party
Yes
Gain > 0 ?
No
Stop training early