```
L = CrossEntropy()
for (r, x, y) in loader:
    mask = (bernoulli(alpha) == 1)
    if mask:
        anc = CONCAT([0, x-r])
        y_hat = softmax(model(anc))
        loss = L(U, y_hat)
        # U - Uniform Prior on all classes
    else:
        anc = CONCAT([r, x-r])
        y_hat = softmax(model(anc))
        loss = L(y, y_hat)
    optimizer.zero_grad()
    loss.backward()
    optimizer.step()
```