



Algorithm MPOSNN

Input: $X^{M \times N}$, $FactorGraph$, n_{stop} , σ

Output: $Y''^{M \times n}$

Step 1:

$Y^{M \times n} \leftarrow scFEA(X^{M \times N}, FactorGraph)$

$Y^{\# M \times n} \leftarrow Y^{M \times n}$

Step 2:

$step \leftarrow 0$

$loss \leftarrow -inf$

while $step < n_{stop}$ **or** $loss > \sigma$:

$Y'^{M \times n} \leftarrow MPO(Y^{\# M \times n})$

$Y''^{M \times n} \leftarrow SNN(X^{M \times N}, FactorGraph, Y'^{M \times n})$

$Y^{\# M \times n} \leftarrow Y''^{M \times n}$

$step \leftarrow step + 1$

$loss \leftarrow ImbalanceLoss(FactorGraph, Y''^{M \times n})$

End
