$$egin{align*} oldsymbol{x}_{ ext{feature}} = egin{pmatrix} p_{ ext{T}} & oldsymbol{ ext{Fully-Connected}} & oldsymbol{ ext{Neural Network}} & oldsymbol{ ext{}} \hat{oldsymbol{y}}_{ ext{pred}} = egin{pmatrix} \hat{y}_{ ext{sig}} \ \hat{y}_{ ext{bg}} \end{pmatrix} \end{aligned}$$