Data preprocessing-part train set Undersampling alignment class imbalance construction Fault data collection Majority Class BR1:400 Minority Class BR1:400 Signal data collection Normalize test set Minority Class Minority Class Majority Class Majority Class Minority Class slicing Minority Class BR1:200 BR1:200 Minority Class Minority Class Divide the dataset Sample synthesis and collection-part Filitering-moudle **CWT-moudle SEA-module** Encoder Decoder AFC-moudle dwconv(2048,2048,1,1,1,2048) conv(256,512,3,1,1) deconv(256,128,3,1,1) conv(2048,512,1,1,1) conv(64,128,3,1,1)



