

TinyML Application: CNN Sensor Analytics for Structural Health Monitoring

Experimental setup:

Sensor and noise positions

Training dataset

Testing dataset

Model architecture

CNN-regression model

Output tensor (x, y)	
FC (2), Linear	
FC (E = 64), ReLu	
FC (D = 196), ReLu	
Flatten	
2 x 2 MaxPool, stride 2	
BatchNormalization	
3 x 3 Conv (C = 60), ReLu	Conv _C
2 x 2 MaxPool, stride 2	
BatchNormalization	
3 x 3 Conv (B = 55), ReLu	Conv _B
2 x 2 MaxPool, stride 2	
BatchNormalization	
3 x 3 Conv (A = 50), ReLu	Conv _A
Input tensor (F x T x S)	