

**LSTM Autoencoder Architectures:** Each architecture consists of an encoder (reducing dimensionality) and a symmetrical decoder (reconstructing the input). The layers column records the number of encoder layers (including the bottleneck layer) used to produce the features used in the study. The architecture column specifies the number of nodes per layer. Colours indicate encoder (blue), bottleneck (red), and decoder (green) layers.

$\alpha$	Layers	Architecture	Parameters
A	2	48 → 36 → 48	13,824
B	2	48 → 24 → 48	7,200
C	2	48 → 12 → 48	3,024
D	2	36 → 24 → 36	6,048
E	2	36 → 12 → 36	2,448
F	2	24 → 12 → 24	1,872
G	3	48 → 36 → 24 → 36 → 48	31,824
H	3	48 → 36 → 12 → 36 → 48	27,648
I	3	48 → 24 → 12 → 24 → 48	15,120
J	3	36 → 24 → 12 → 24 → 36	11,808
K	4	48 → 36 → 24 → 12 → 24 → 36 → 48	41,472
L	3	64 → 32 → 16 → 32 → 64	24,576
M	4	64 → 48 → 24 → 12 → 24 → 48 → 64	55,296
N	4	128 → 64 → 32 → 16 → 32 → 64 → 128	164,864
O	5	128 → 64 → 48 → 32 → 24 → 32 → 48 → 64 → 128	258,816
P	5	96 → 72 → 48 → 24 → 12 → 24 → 48 → 72 → 96	153,216

Note: All architectures have input/output dimension (48,1). Parameters include weights and biases for all LSTM gates.