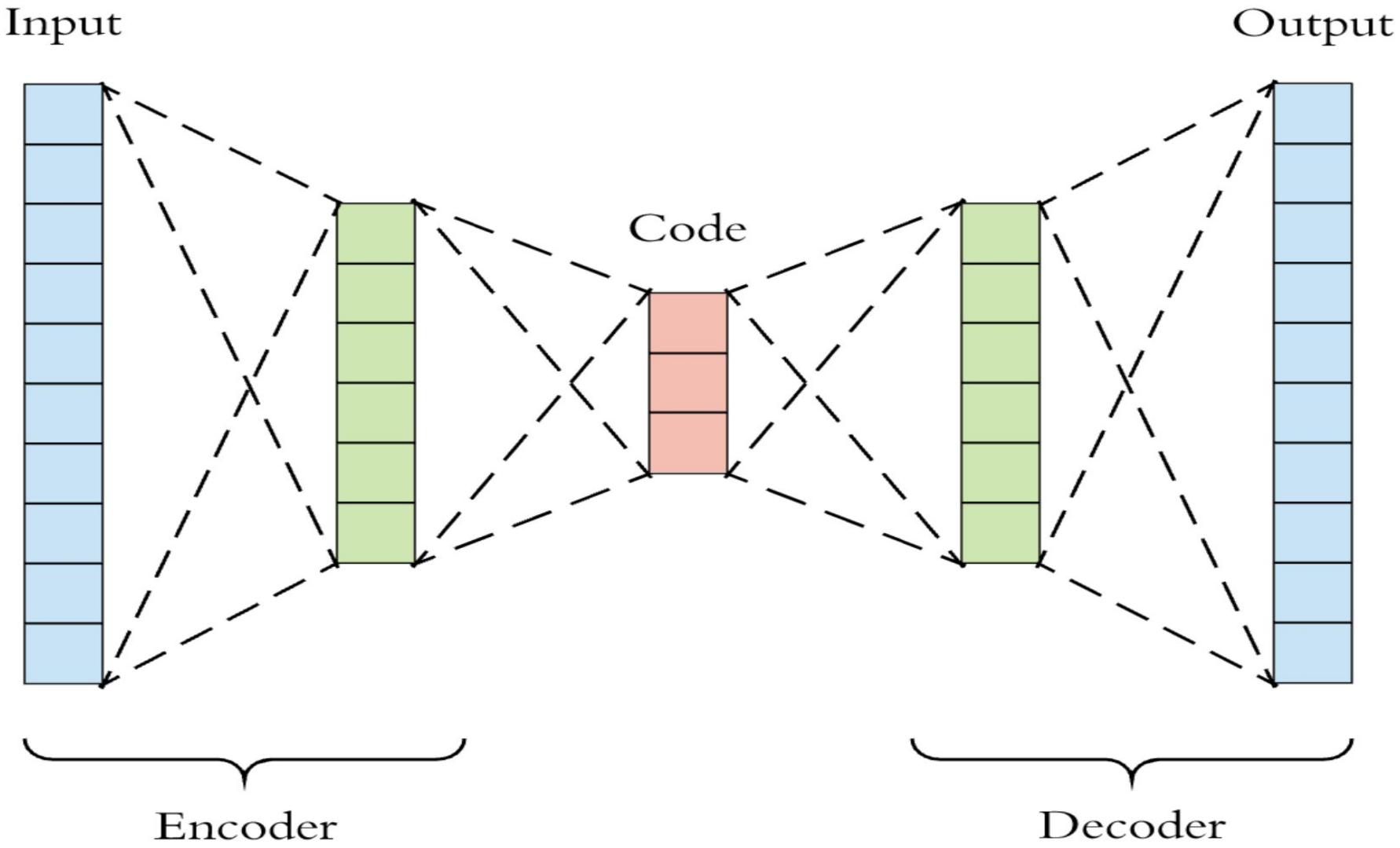
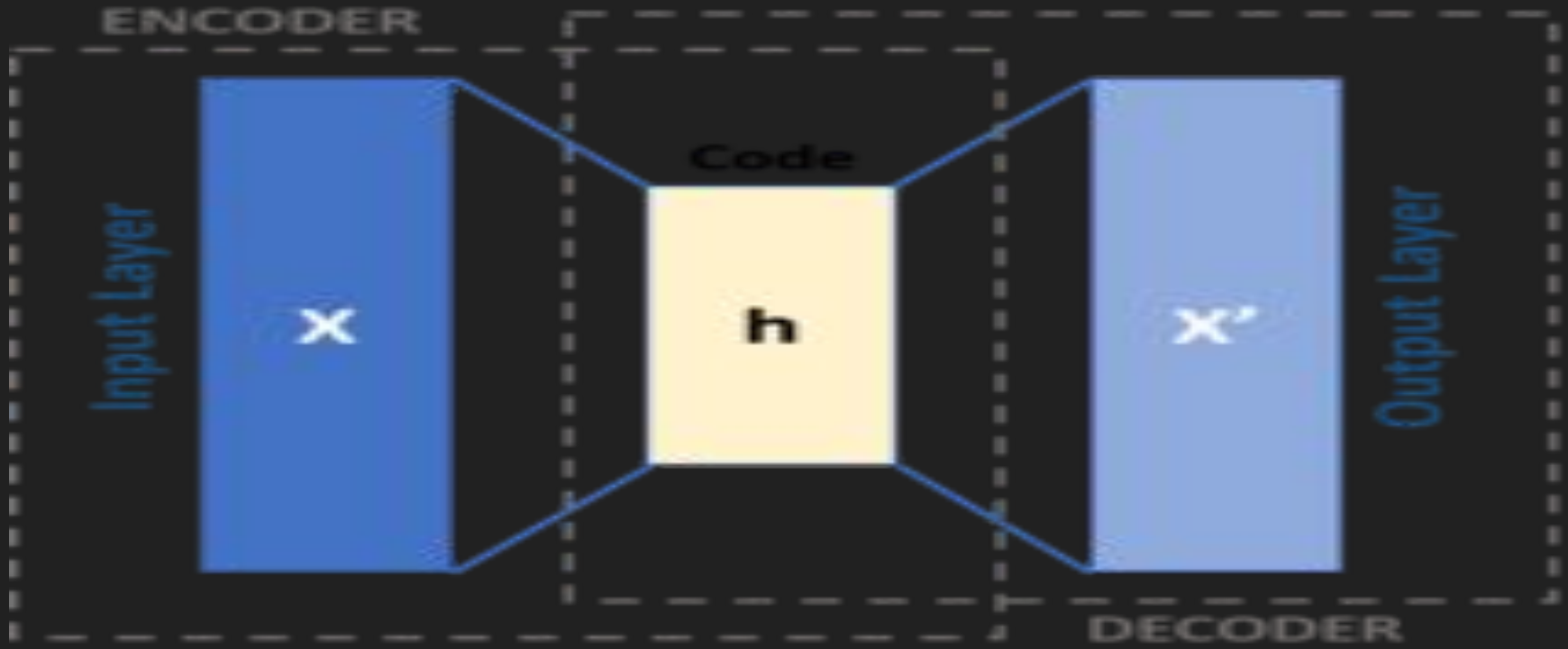
Auto-encoders

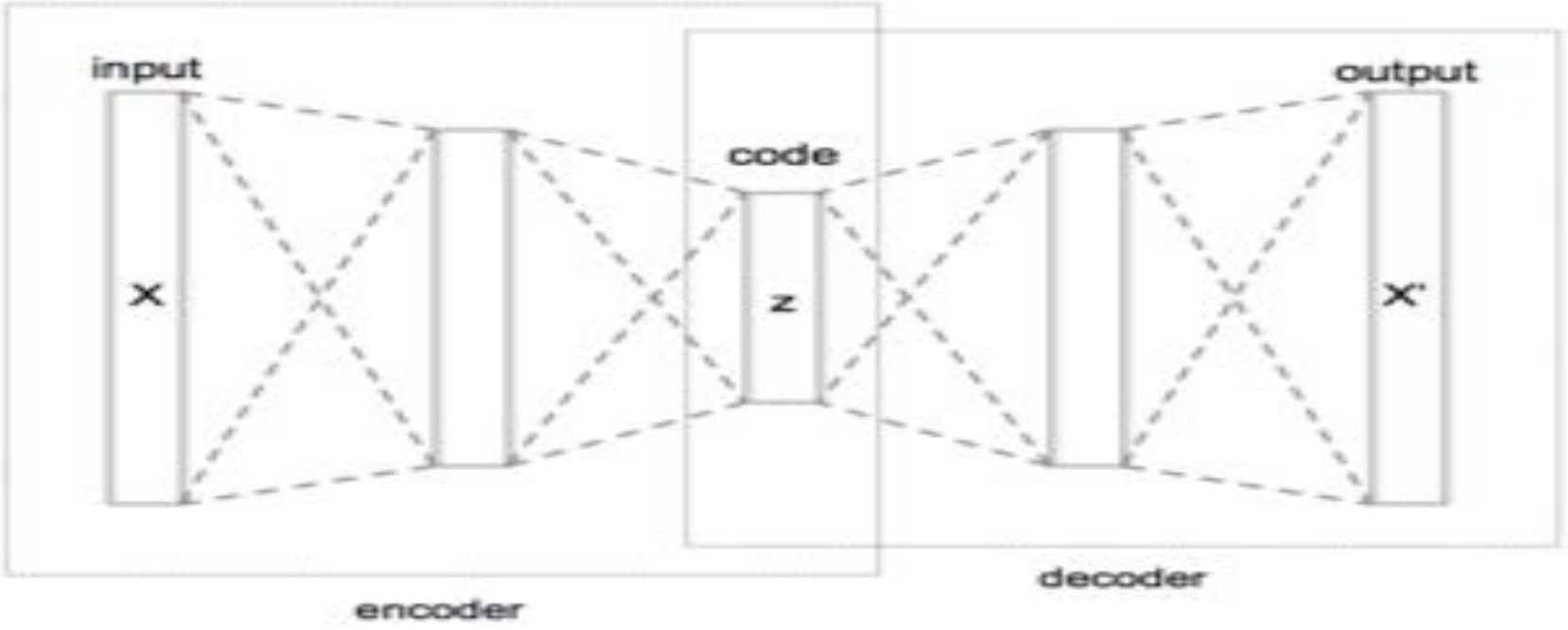
Boris Kuznetsov & Mattia Mariantoni


Input
Output
Code
Encoder
Decoder

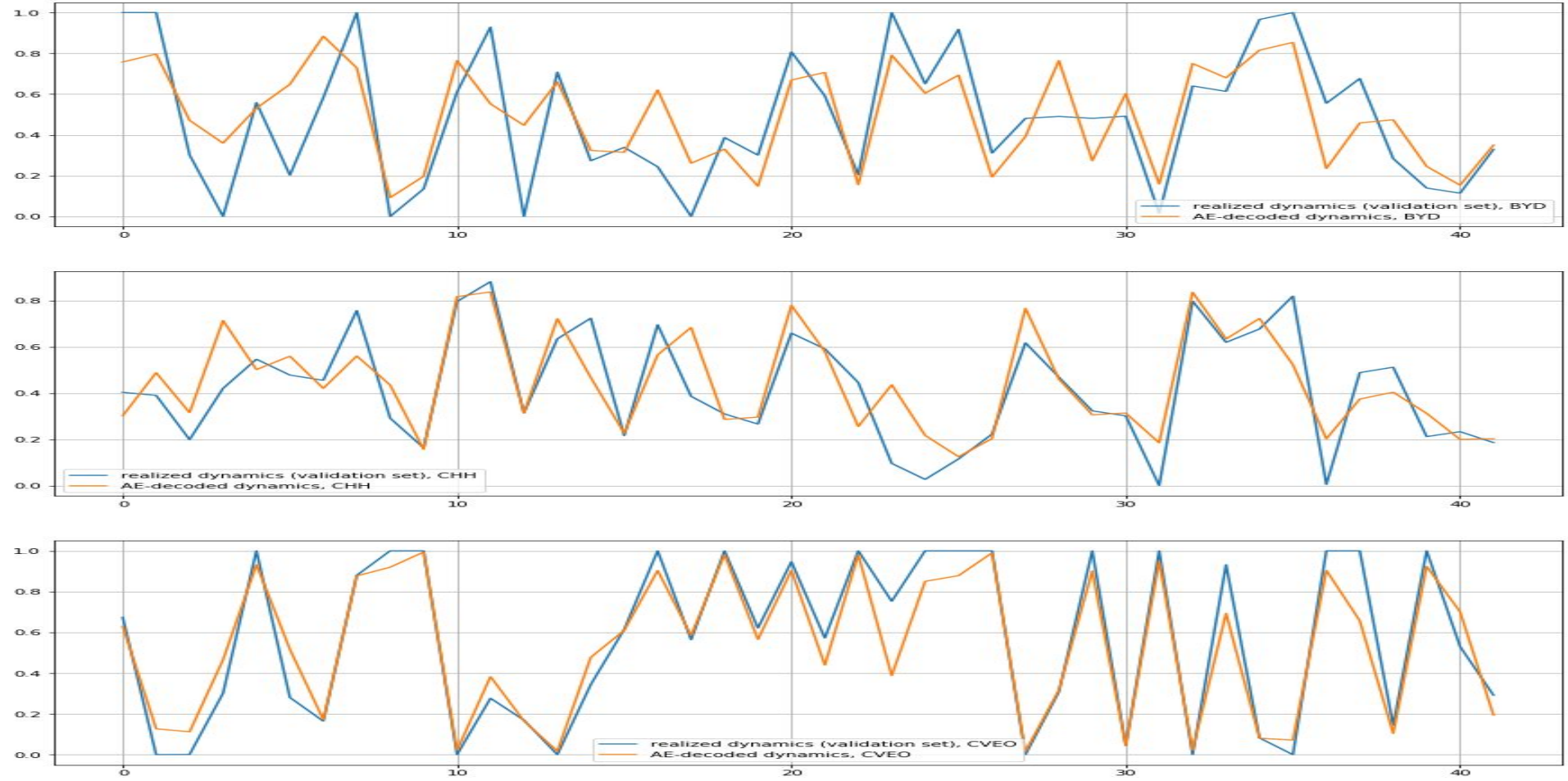
FEED-FORWARD (SIMPLE) AUTO-ENCODER

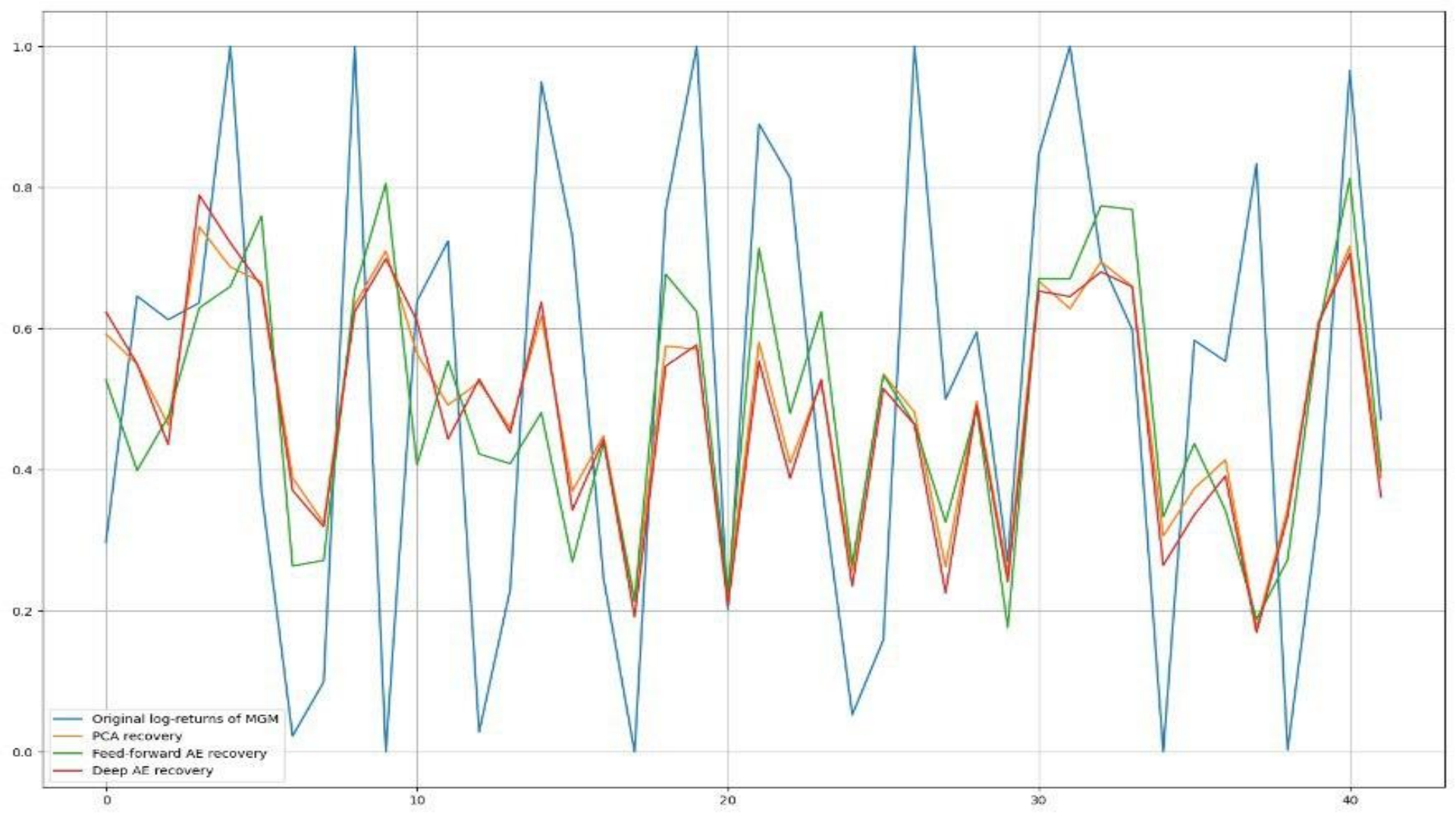


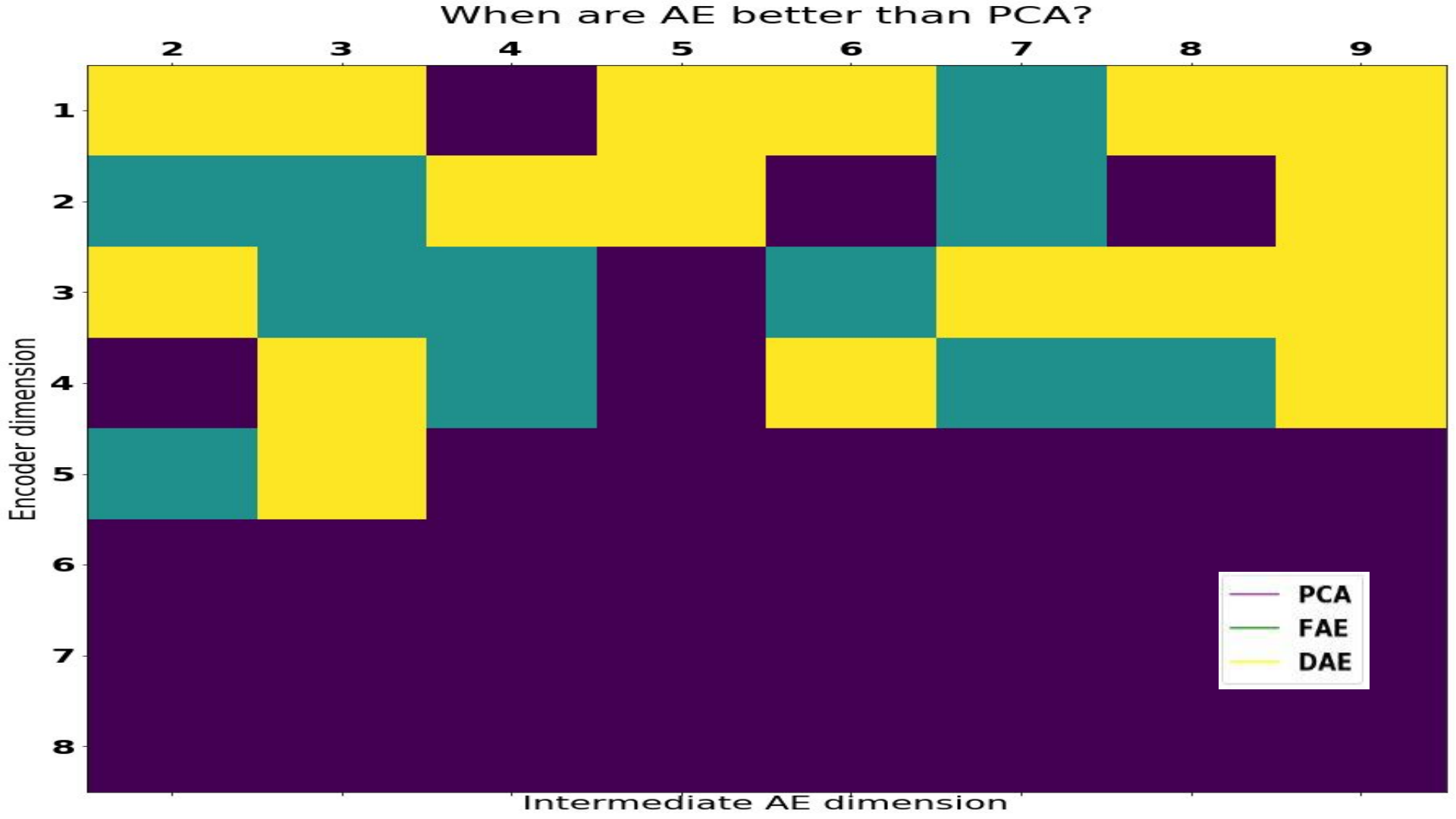
Deep auto-encoders



Deep auto-encoder method




Original log-returns of MGM
PCA recovery
Feed-forward AE recovery
Deep AE recovery
1.0
0.8
0.6
0.4
0.2
0.0
0
10
20
30
40


When are AE better than PCA?
2
3
4
5
6
7
8
9
1
2
3
4
5
6
7
8
Encoder dimension
Intermediate AE dimension
PCA
FAE
DAE