DC Motor System

Parameter	Value
J	0.01
b	0.1
K	0.01
R	1
L	5
u	[0, 24]

Deep Feed Forward

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	1
Hidden Neuro	10
Activation Fur	ReLu
Epochs	10

Recurrent Neural Network

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	1
Hidden neuro	10
Activation fun	Relu
Epochs	10

Long Short Term Memory

Parameter	Value
Inputs	5
Time delays	2
LSTM layers	1
Hidden cells	10
Activation fun	ReLu
Epochs	10

Convolutional Neural Network

Parameter	Value
Inputs	5
Time delays	2
Conv. Layer 1D	1
Filters	32
Kernel size	2
Activation Function	ReLu
Output layer	1
Output neurons	10
Epochs	10

Mass Spring System

Parameter	Value
m1	1
m2	1
c	0
u	[-10, 10]

Deep Feed Forward

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	1
Hidden Neuro	10
Activation Fur	ReLu
Epochs	10

Recurrent Neural Network

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	1
Hidden neuro	10
Activation fun	Relu
Epochs	10

Long Short Term Memory

Parameter	Value
Inputs	5
Time delays	2
LSTM layers	1
Hidden cells	10
Activation fun	ReLu
Epochs	10

Convolutional Neural Network

Parameter	Value
Inputs	5
Time delays	2
Conv. Layer 1D	1
Filters	32
Kernel size	2
Activation Function	ReLu
Output layer	1
Output neurons	10
Epochs	10

MS + Pole

Parameter	Value
M	1
m	1
k	0.1
N	1
l	1
u	[-12, 12]

Deep Feed Forward

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	2
Hidden Neuro	15
Activation Fur	ReLu
Epochs	12

Recurrent Neural Network

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	2
Hidden neuro	10
Activation fun	Relu
Epochs	12

Long Short Term Memory

Parameter	Value
Inputs	5
Time delays	2
LSTM layers	1
Hidden cells	20
Activation fun	ReLu
Epochs	12

Convolutional Neural Network

Parameter	Value
Inputs	5
Time delays	2
Conv. Layer 1D	1
Filters	32
Kernel size	2
Activation Function	ReLu
Output layer	1
Output neurons	10
Epochs	12

Cart Pole

Parameter	Value
m	0.356
M	4.8
l	0.56
dmf	0.035
Fc	4.9
g	9.81
L	2
u	[0, 120]

Deep Feed Forward

Parameter	Value
Inputs	7
Time delays	2
Hidden layers	2
Hidden Neuro	10
Activation Fur	ReLu
Epochs	13

Recurrent Neural Network

Parameter	Value
Inputs	7
Time delays	2
Hidden layers	2
Hidden neuro	10
Activation fun	Relu
Epochs	13

Long Short Term Memory

Parameter	Value
Inputs	7
Time delays	2
LSTM layers	2
Hidden cells	15
Activation fun	ReLu
Epochs	13

Convolutional Neural Network

Parameter	Value
Inputs	7
Time delays	2
Conv. Layer 1D	1
Filters	32
Kernel size	2
Activation Function	ReLu
Output layer	1
Output neurons	10
Epochs	13

A. Maneuver

Parameter	Value
I	diag(6, 5.5, 6.5)
u	[0, 0.1]

Deep Feed Forward

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	2
Hidden Neuro	30
Activation Fur	ReLu
Epochs	15

Recurrent Neural Network

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	2
Hidden neuro	30
Activation fun	Relu
Epochs	15

Long Short Term Memory

Parameter	Value
Inputs	5
Time delays	2
LSTM layers	2
Hidden cells	20
Activation fun	ReLu
Epochs	15

Convolutional Neural Network

Parameter	Value
Inputs	5
Time delays	2
Conv. Layer 1D	1
Filters	32
Kernel size	2
Activation Function	ReLu
Output layer	1
Output neurons	10
Epochs	15

Microgrid

Parameter	Value
Tp	1
Tt	1
Tg	1
Kp	1
Ks	1
Ke	1
Initial values	[0.6, -0.6, 0.3, -0.3]
u	[-10, 10]

Deep Feed Forward

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	1
Hidden Neuro	10
Activation Fur	ReLu
Epochs	10

Recurrent Neural Network

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	1
Hidden neuro	10
Activation fun	Relu
Epochs	10

Long Short Term Memory

Parameter	Value
Inputs	5
Time delays	2
LSTM layers	1
Hidden cells	10
Activation fun	ReLu
Epochs	10

Convolutional Neural Network

Parameter	Value
Inputs	5
Time delays	2
Conv. Layer 1D	1
Filters	32
Kernel size	2
Activation Function	ReLu
Output layer	1
Output neurons	10
Epochs	10

High order

Parameter	Value
r1	1
r2	0.32
r3	0.28
p1	3.00
p2	1.00
m1	1.00
u11	0.00
u12	0.00
u21	0.04
lamda	0.10
beta1	0.00
beta2	0.00
w	-0.04
u	[-100, 100]

Deep Feed Forward

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	2
Hidden Neuro	100
Activation Fur	ReLu
Epochs	20

Recurrent Neural Network

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	2
Hidden neuro	100
Activation fun	Relu
Epochs	20

Long Short Term Memory

Parameter	Value
Inputs	5
Time delays	2
LSTM layers	2
Hidden cells	100
Activation fun	ReLu
Epochs	20

Convolutional Neural Network

Parameter	Value
Inputs	5
Time delays	2
Conv. Layer 1D	1
Filters	64
Kernel size	2
Activation Function	ReLu
Output layer	1
Output neurons	20
Epochs	20

Lorenz Attractor

Parameter	Value
a	10
b	28
c	8/3
u	[-10, 10]

Deep Feed Forward

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	2
Hidden Neuro	120
Activation Fur	ReLu
Epochs	20

Recurrent Neural Network

Parameter	Value
Inputs	5
Time delays	2
Hidden layers	2
Hidden neuro	120
Activation fun	Relu
Epochs	20

Long Short Term Memory

Parameter	Value
Inputs	5
Time delays	2
LSTM layers	2
Hidden cells	120
Activation fun	ReLu
Epochs	20

Convolutional Neural Network

Parameter	Value
Inputs	5
Time delays	2
Conv. Layer 1D	1
Filters	64
Kernel size	2
Activation Function	ReLu
Output layer	1
Output neurons	20
Epochs	20