## Sheet1

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
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Mass Spring System	
Parameter	Value
m1	1
m2	1
С	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	5 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
I	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
I	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

## Sheet1

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
Тр	1
Tt	1
Tg	1
Kp Ks	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 2
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	
Value	
5	
2	
2	
100	
Relu	
20	

Long Short T	erm Memory		Convolutional N
Parameter	Value	F	arameter
Inputs	5	Inputs	
Time delays	2	Time of	delays
LSTM layers	2	Conv.	Layer 1D
Hidden cells	100	Filters	
Activation fun	ReLu	Kerne	size
Epochs	20	Activa	tion Function
		Outpu	t layer
		Outpu	t neurons

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
а	10
b	28
С	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
Ir	nputs	5
T	ime delays	2
F	lidden layers	2
F	lidden neuro	120
Α	ctivation fun	Relu
Æ	pochs	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