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Appendix A

Deep Learning Models

A.1 Hyperparameters

Table A.1 – *Hyperparameter range for MLP, LsTM, and GRU.*

Hyperparameter	MLP	LSTM / GRU
Layers	1 – 8	1 – 8
Nodes	4 – 256 (each layer)	4 – 256
Dropout	0.05 – 0.5 (each layer)	0.05 – 0.5
Activation	Leaky-ReLU	{Sigmoid, Tanh}
Learning rate	$10^{-5} - 10^{-1}$	$10^{-5} - 10^{-1}$
Weight decay	$10^{-5} - 10^{-1}$	$10^{-5} - 10^{-1}$
Batch size	32	32
Early stopping patience	10	10
Lookback (days)	1 – 5	1 – 30
Wind Production	Binary	Binary
Nuclear Production	Binary	Binary
Solar Production	Binary	Binary
Consumption	Binary	Binary
Transmission Capacity	Binary	Binary
Year	Binary	Binary
Week	Binary	Binary
Day of week	Binary	Binary
Holiday	Binary	Binary
Transmission flow	Binary	Binary