

1 Layer

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params_grid_1layer = {'INPUT_SIZE': [X_train.shape[1]],
                      'HIDDEN_SIZE': [[16, 16], [32, 32], [64, 64], [128,
128], [16, 8], [32, 16], [64, 32], [128, 64]],
                      'EPOCHS': [4, 8, 16, 32, 64],
                      'BATCH_SIZE': [16, 32, 64, 128],
                      'LR': [0.001, 0.01]
                      }
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	Parameters	Validation score	Train score
	65 {'input_size': 15, 'hidden_size': [32, 32], 'epochs': 32, 'batch_size': 16, 'learning_rate': 0.01}	0.880665	0.891629
	264 {'input_size': 15, 'hidden_size': [64, 32], 'epochs': 32, 'batch_size': 16, 'learning_rate': 0.001}	0.879813	0.887031
	299 {'input_size': 15, 'hidden_size': [128, 64], 'epochs': 16, 'batch_size': 32, 'learning_rate': 0.01}	0.878399	0.887566
	116 {'input_size': 15, 'hidden_size': [64, 64], 'epochs': 64, 'batch_size': 64, 'learning_rate': 0.001}	0.878118	0.888448
	29 {'input_size': 15, 'hidden_size': [16, 16], 'epochs': 32, 'batch_size': 64, 'learning_rate': 0.01}	0.878116	0.884952
	251 {'input_size': 15, 'hidden_size': [64, 32], 'epochs': 8, 'batch_size': 32, 'learning_rate': 0.01}	0.878115	0.879157

| 63 | {'input_size': 15, 'hidden_size': [32, 32], 'epochs': 16, 'batch_size': 128, 'learning_rate': 0.01} |
0.878115 | 0.880606 |

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| 106 | {'input_size': 15, 'hidden_size': [64, 64], 'epochs': 32, 'batch_size': 32, 'learning_rate': 0.001}
| 0.877834 | 0.886432 |

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| 267 | {'input_size': 15, 'hidden_size': [64, 32], 'epochs': 32, 'batch_size': 32, 'learning_rate': 0.01} |
0.877552 | 0.890684 |

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| 305 | {'input_size': 15, 'hidden_size': [128, 64], 'epochs': 32, 'batch_size': 16, 'learning_rate': 0.01}
| 0.87755 | 0.894274 |

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2 Layers

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params_grid_2layers = {'INPUT_SIZE': [X_train.shape[1]],
                       'HIDDEN_SIZE': [[16, 16, 16], [32, 32, 32], [64, 64,
64], [128, 128, 128], [32, 16, 8],
                                     [64, 32, 16], [64, 32, 16], [128,
64, 32]],
                       'EPOCHS': [8, 16, 32, 64],
                       'BATCH_SIZE': [16, 32, 64, 128],
                       'LR': [0.001, 0.01]
                       }
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	Parameters	Validation score	Train score
63	{'input_size': 15, 'hidden_size': [32, 32, 32], 'epochs': 64, 'batch_size': 128, 'learning_rate': 0.01}	0.880665	0.898243
210	{'input_size': 15, 'hidden_size': [64, 32, 16], 'epochs': 32, 'batch_size': 32, 'learning_rate': 0.001}	0.880098	0.885173
49	{'input_size': 15, 'hidden_size': [32, 32, 32], 'epochs': 32, 'batch_size': 16, 'learning_rate': 0.01}	0.879813	0.888731
101	{'input_size': 15, 'hidden_size': [128, 128, 128], 'epochs': 8, 'batch_size': 64, 'learning_rate': 0.01}	0.879529	0.881897
104	{'input_size': 15, 'hidden_size': [128, 128, 128], 'epochs': 16, 'batch_size': 16, 'learning_rate': 0.001}	0.879248	0.888291

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| 179 | {'input_size': 15, 'hidden_size': [64, 32, 16], 'epochs': 32, 'batch_size': 32, 'learning_rate':
0.01} |      0.878965 |      0.891692 |

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| 109 | {'input_size': 15, 'hidden_size': [128, 128, 128], 'epochs': 16, 'batch_size': 64, 'learning_rate':
0.01} |      0.878964 |      0.887157 |

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| 220 | {'input_size': 15, 'hidden_size': [64, 32, 16], 'epochs': 64, 'batch_size': 64, 'learning_rate':
0.001} |      0.878963 |      0.887975 |

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| 83 | {'input_size': 15, 'hidden_size': [64, 64, 64], 'epochs': 32, 'batch_size': 32, 'learning_rate':
0.01} |      0.878681 |      0.894023 |

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| 212 | {'input_size': 15, 'hidden_size': [64, 32, 16], 'epochs': 32, 'batch_size': 64, 'learning_rate':
0.001} |      0.878117 |      0.882873 |

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3 Layers

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params_grid_3layers = {'INPUT_SIZE': [X_train.shape[1]],
                       'HIDDEN_SIZE': [[16, 16, 16, 16], [32, 32, 32, 32],
                                         [64, 64, 64, 64], [128, 128, 128, 128],
                                         [64, 32, 16, 8],
                                         [128, 64, 32, 16], [256, 128, 64,
32], [128, 64, 32, 16]],
                       'EPOCHS': [8, 16, 32, 64],
                       'BATCH_SIZE': [16, 32, 64, 128],
                       'LR': [0.001, 0.01]
                       }
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	Parameters	Validation score
247	{'input_size': 15, 'hidden_size': [128, 64, 32, 16], 'epochs': 32, 'batch_size': 128, 'learning_rate': 0.01}	0.880098 0.893424
104	{'input_size': 15, 'hidden_size': [128, 128, 128, 128], 'epochs': 16, 'batch_size': 16, 'learning_rate': 0.001}	0.879536 0.888637
83	{'input_size': 15, 'hidden_size': [64, 64, 64, 64], 'epochs': 32, 'batch_size': 32, 'learning_rate': 0.01}	0.879534 0.892731

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| 58 | {'input_size': 15, 'hidden_size': [32, 32, 32, 32], 'epochs': 64, 'batch_size': 32, 'learning_rate':
0.001} |      0.87953 |    0.892448 |
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| 241 | {'input_size': 15, 'hidden_size': [128, 64, 32, 16], 'epochs': 32, 'batch_size': 16,
'learning_rate': 0.01} |      0.87925 |    0.894054 |
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| 203 | {'input_size': 15, 'hidden_size': [256, 128, 64, 32], 'epochs': 16, 'batch_size': 32,
'learning_rate': 0.01} |      0.878968 |    0.885141 |
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| 246 | {'input_size': 15, 'hidden_size': [128, 64, 32, 16], 'epochs': 32, 'batch_size': 128,
'learning_rate': 0.001} |      0.878683 |    0.885582 |
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| 209 | {'input_size': 15, 'hidden_size': [256, 128, 64, 32], 'epochs': 32, 'batch_size': 16,
'learning_rate': 0.01} |      0.878682 |    0.8927   |
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| 156 | {'input_size': 15, 'hidden_size': [64, 32, 16, 8], 'epochs': 64, 'batch_size': 64, 'learning_rate':
0.001} |      0.878399 |    0.886464 |
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| 222 | {'input_size': 15, 'hidden_size': [256, 128, 64, 32], 'epochs': 64, 'batch_size': 128,
'learning_rate': 0.001} |      0.878398 |    0.901801 |
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