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Programming Assignment 1

Report for different Artificial Neural Networks

Below is a report of each metric for each artificial neural network designed and tested. The final value of each metric for each artificial neural network are the values obtained at the end of the final epoch. An Adam optimizer and binary cross entropy loss function was used to run all of the artificial neural networks. The models were validated through the 20% random test data set aside from dataset.csv.

	Configurations	Accuracy		Precision		Recall		F1 Score	
		Train	Test	Train	Test	Train	Test	Train	Test
ANN-1	11x10 ReLu 10x5 ReLu 5x4 ReLu 4x1 Sigmoid Batch size = 55 Epoch = 100 Scaling = yes	0.8350	0.8389	0.7176	0.7079	0.3136	0.3462	0.4364	0.4649
ANN-2	11x11 ReLu 11x9 ReLu 9x5 ReLu 5x3 Sigmoid 3x1 Sigmoid Batch size = 100 Epoch = 100,000 Scaling = yes	0.8700	0.8483	0.8081	0.7226	0.4744	0.4203	0.5979	0.5285
ANN-3	15x20 ReLu 20x10 ReLu 10x5 ReLu 5x2 ReLu 2x1 Sigmoid Batch size = 150 Epochs = 1100 Scaling = yes	0.8592	0.8622	0.7535	0.6856	0.4714	0.5231	0.5800	0.5934
ANN-4	14x7 ReLu 7x3 ReLu 3x1 Sigmoid Batch size = 300 Epochs = 1000 Scaling = yes	0.8560	0.8461	0.7763	0.7081	0.4117	0.4066	0.5381	0.5166