

## Report

*\* ANN's trained with data that was enumerated instead of using dummy variable. Table 2 shows results after using dummy variables for Gender and Geography*

Table 1	Config.	Accuracy		Precision		Recall		F1-Score	
		Train Set	Test Set	Train Set	Test Set	Train Set	Test Set	Train Set	Test Set
ANN-1	11x10, ReLU 10x5, ReLU 5x4, ReLU 5x1, Sigmoid Epoch=100 Scaling = Yes	89.01%	83.67%	80.44%	68.25%	57.23%	43.93%	65.56%	52.54%
ANN-2	11x11, ReLU 11x9, ReLU 9x5, ReLU 5x3, Sigmoid 3x1, Sigmoid Epoch=10,000 Scaling=Yes	97.14%	80.89%	94.19%	54.79%	91.5%	47.48%	92.70%	50.43%
ANN-3	9x9, ReLU, 9x3, TanH 3x1, Sigmoid Epoch=100 Scaling=Yes	88.71%	84.56%	81.84%	70.28%	57.11%	44.11%	67.01%	53.90%
ANN-4	9x9, ReLU, 9x3, TanH 9x5, TanH 5x1, Sigmoid Epoch=100 Scaling=Yes	87.73%	84.22%	77.9%	64.57%	58.23%	44.29%	63.84%	50.51%
ANN-5	5x5, Sigmoid 5x5, Sigmoid 5x4, Sigmoid 4x6, Sigmoid 6x9, Sigmoid 9x1, Sigmoid Epoch=1,000 Scaling=Yes	86.15%	84.5%	76.36%	67.17%	47.17%	39.38%	55.12%	46.79%

Table 2	Config.	Accuracy		Precision		Recall		F1-Score	
		Train Set	Test Set	Train Set	Test Set	Train Set	Test Set	Train Set	Test Set
ANN-1	11x10 ,ReLU 10x5, ReLU 5x4, ReLU 5x1, Sigmoid Epoch=100 Scaling = Yes	88.43%	83.67%	78.93%	63.91%	59.14%	46.56%	67.24%	53.63%
ANN-2	11x11, ReLU 11x9, ReLU 9x5, ReLU 5x3, Sigmoid 3x1, Sigmoid Epoch=10,000 Scaling=Yes	93.33%	83.56%	98.38%	65.73%	68.54%	42.08%	80.43%	50.87%
ANN-3	9x9, ReLU, 9x3, TanH 3x1, Sigmoid Epoch=100 Scaling=Yes	88.0%	84.56%	80.15%	69.47%	55.15%	45.79%	64.87%	54.62%

### Fastest Model (ANN-3)

Layer (type)	Output Shape	Param #
dense_1 (Dense)	(None, 128)	1536
dense_2 (Dense)	(None, 3)	387
dense_3 (Dense)	(None, 1)	4
Total params: 1,927		
Trainable params: 1,927		
Non-trainable params: 0		