

# REPORT

A binary classification problem using **neural networks** with:

- 1) Gradient descent
- 2) Genetic Algorithm
- 3) Simulated Annealing
- 4) Randomized Hill Climbing

Comparison of the performance metrics like prediction accuracy on the test set, sensitivity, and specificity measures, Area Under Curve (AUC)

**Table of Comparison on TEST Set:**

Method	Accuracy	Sensitivity	Specificity	AUC
Gradient Descent	0.878151	0.904762	0.848214	0.876488
Genetic Algorithm	0.882353	0.857143	0.910714	0.883929
Simulated Annealing	0.798319	0.825397	0.767857	0.796627
Randomized Hill Climbing	0.768908	0.857143	0.669643	0.763393