Table 1: PSO, GA, DE Parameters for Bankruptcy Prediction

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| PSO | | GA | | DE | |
| **Parameter** | **Value** | **Parameter** | **Value** | **Parameter** | **Value** |
| Swarm Size | 50 | Population size | 50 | Population size | 50 |
| Number of Generations | 100 | Number of generations | 100 | Number of Generations | 100 |
| Omega (w1) | 0.5 | Probability of Crossover | 0.9 | Probability of Recombination | 0.5 |
| Phi P (w2) | 0.1 | Probability of mutation | 0.1 | Probability of Mutation | 0.2 |
| Phi G (w3) | 0.1 | Bounds | (0.1, 1) | Bounds | (0.1, 1) |
| Bounds | (0.1, 1) |  |  |  |  |

Table 2 Classification results

|  |  |  |
| --- | --- | --- |
|  | Actually Bankrupt | Not Bankrupt |
| Predicted Bankrupt | TP | FP |
| Predicted Not Bankrupt | FN | TN |

Accuracy = (TP + TN) / (TP + TN + FP + FN)

Precision = TP / (TP + FP)

Sensitivity = TP / (TP + FN)

Specificity = TN / (TN + FP)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Algorithm** | **Accuracy (%)** | **Precision (%)** | **Sensitivity (%)** | **Specificity (%)** | **F-measure (%)** |
| PSO-SVM | 76.67 | 83.33 | 66.67 | 86.67 | 74.07 |
| GA-SVM | 73.33 | 71.88 | 76.67 | 70 | 74.20 |
| DE-SVM | 73.33 | 73.33 | 73.33 | 73.33 | 73.33 |