|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Percent | crossover | accuracy | F1 | precision | recall |
| 30% | SBX | 94.02 | 94.1 | 94.56 | 93.92 |
| 50% | SBX | 93.67 | 93.2 | 92.11 | 94.34 |
| 70% | SBX | 92.6 | 92.8 | 92.4 | 93.2 |
| 30% | Single Point | 93.69 | 93.85 | 93.12 | 94.59 |
| 50% | Singe Point | 93.00 | 93.16 | 92.65 | 93.69 |
| 70% | Singe Point | 92.7 | 93.12 | 92.83 | 93.81 |
| 30% | Two point crossover | 93.69 | 93.85 | 93.12 | 94.59 |
| 50% | Two Point Crossover | 92.88 | 92.91 | 92.93 | 94.06 |
| 70% | Two point crossover | 93.03 | 93.08 | 92.25 | 93.91 |
| 30% | Arithmetic Crossover | 93.66 | 93.82 | 93.52 | 94.11 |
| 50% | Arithmetic Crossover | 93.11 | 93.33 | 93.13 | 93.93 |
| 70% | Arithmetic Crossover | 92.65 | 92.84 | 91.22 | 93.81 |

Whale

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Percent | crossover | accuracy | F1 | precision | recall |
| 30% | SBX | 94.67 | 94.6 | 95.21 | 94.14 |
| 50% | SBX | 94.12 | 94.21 | 93.69 | 93.88 |
| 70% | SBX | 93.92 | 94.06 | 93.54 | 94.59 |
| 30% | Single Point | 93.34 | 93.58 | 91.77 | 95.49 |
| 50% | Singe Point | 93.80 | 93.90 | 94.11 | 93.69 |
| 70% | Singe Point | 94.15 | 94.26 | 94.15 | 94.36 |
| 30% | Two point crossover | 94.26 | 94.40 | 93.77 | 95.04 |
| 50% | Two Point Crossover | 93.57 | 93.76 | 92.73 | 94.81 |
| 70% | Two point crossover | 93.84 | 93.54 | 93.54 | 94.59 |
| 30% | Arithmetic Crossover | 93.96 | 94.02 | 94.13 | 93.91 |
| 50% | Arithmetic Crossover | 93.46 | 93.64 | 92.71 | 94.17 |
| 70% | Arithmetic Crossover | 93.57 | 93.72 | 93.30 | 94.14 |