**SUMMARY TABLE (VALIDATION SCORES)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Normalization** | **Accuracy** | **Precision** | **Recall** | **F1 Score** | **AUC Score** |
| **Logistic Regression** | | | | | | |
| Baseline | None | 0.9503 | 0 | 0 | 0 | 0.5 |
|  | Minmax | 0.9503 | 0 | 0 | 0 | 0.5 |
| Undersampled | None | 0.9115 | 0.1538 | 0.1732 | 0.1630 | 0.5617 |
|  | Minmax | 0.9456 | 0.2692 | 0.0551 | 0.0915 | 0.5236 |
| Oversampled | None | 0.9049 | 0.2238 | 0.3701 | 0.2789 | 0.6515 |
|  | Minmax | 0.8607 | 0.1828 | 0.519 | 0.2705 | 0.6991 |
| **Decision Tree** | | | | | | |
| Baseline | None | 0.9119 | 0.1689 | 0.1968 | 0.1818 | 0.5730 |
|  | Minmax | 0.9119 | 0.1689 | 0.1968 | 0.1818 | 0.5730 |
| Undersampled | None | 0.8199 | 0.1241 | 0.4330 | 0.1929 | 0.6366 |
|  | Minmax | 0.6747 | 0.1036 | 0.724 | 0.1812 | 0.6982 |
| Oversampled | None | 0.9150 | 0.1311 | 0.1259 | 0.1285 | 0.5411 |
|  | Minmax | 0.8246 | 0.1425 | 0.5039 | 0.2222 | 0.6726 |
| **Random Forest** | | | | | | |
| Baseline | None | 0.9471 | 0.2142 | 0.0236 | 0.0425 | 0.5095 |
|  | Minmax | 0.9471 | 0.2142 | 0.0236 | 0.0425 | 0.5095 |
| Undersampled | None | 0.7068 | 0.0680 | 0.3858 | 0.1157 | 0.5540 |
|  | Minmax | 0.8082 | 0.1130 | 0.4173 | 0.1778 | 0.6229 |
| Oversampled | None | 0.9103 | 0.1688 | 0.2047 | 0.1850 | 0.5760 |
|  | Minmax | 0.9091 | 0.1276 | 0.1417 | 0.1343 | 0.5455 |
| **Support Vector Machine (SVM)** | | | | | | |
| Baseline | None | 0.9503 | 0 | 0 | 0 | 0.5 |
|  | Minmax | 0.9503 | 0 | 0 | 0 | 0.5 |
| Undersampled | None | 0.8634 | 0.1396 | 0.3386 | 0.1977 | 0.6147 |
|  | Minmax | 0.9190 | 0.1875 | 0.1890 | 0.1882 | 0.5731 |
| Oversampled | None | 0.8759 | 0.1895 | 0.4567 | 0.2679 | 0.6773 |
|  | Minmax | 0.8701 | 0.1190 | 0.2520 | 0.1612 | 0.5772 |
| **Feedforward Neural Network (FNN)** | | | | | | |
| Baseline | None | 0.955990 | 0 | 0 | 0 | 0.5000 |
|  | Minmax | 0.955990 | 0 | 0 | 0 | 0 |
| Undersampled | None | 0.325 | 0.027848 | 0.4074 | 0.0521 | 0.5 |
|  | Minmax | 0.69356 | 0.09033 | 0.6574 | 0.1588367 | 0.673771 |
| Oversampled | None | 0.89201 | 0.179591 | 0.4074 | 0.249291 | 0.723898 |
|  | Minmax | 0.90586 | 0.167567 | 0.28703 | 0.2116 | 0.679119 |