

Table 1: **Comparison of Classification Models (Top 50 Minimum 1 Week)**

| | Accuracy | Sensitivity | Specificity | AUC | Brier Score | Best Threshold |
|------------------|----------|-------------|-------------|--------|-------------|----------------|
| Logit | 0.5897 | 0.0809 | 0.8881 | 0.5331 | 0.0000 | 0.3474 |
| LDA | 0.3697 | 1.0000 | 0.0000 | 0.5305 | 0.0170 | 0.4192 |
| QDA | 0.4829 | 0.5780 | 0.4271 | 0.5074 | 0.0153 | 0.5934 |
| KNN(5) | 0.5833 | 0.3931 | 0.6949 | 0.5724 | 0.0007 | 0.4500 |
| SVM Linear | 0.6303 | 0.0000 | 1.0000 | | | |
| SVM Poly | 0.6111 | 0.0636 | 0.9322 | | | |
| SVM Radial | 0.6303 | 0.0000 | 1.0000 | | | |
| Tree | 0.5363 | 0.3931 | 0.6203 | 0.5279 | 0.0170 | 0.9375 |
| Pruned Tree (20) | 0.5491 | 0.3006 | 0.6949 | 0.5186 | 0.0000 | 0.4615 |
| Bagged Tree | 0.6068 | 0.2428 | 0.8203 | 0.5590 | 0.0011 | 0.3630 |
| Random Forest | 0.6303 | 0.2543 | 0.8508 | 0.5597 | 0.0011 | 0.3870 |

Prior Frequencies in Test Set for class Target [0.3696581, 0.6303419]

Table 2: **Comparison of Classification Models (Top 50 Minimum 2 Weeks)**

| | Accuracy | Sensitivity | Specificity | AUC | Brier Score | Best Threshold |
|------------------|----------|-------------|-------------|--------|-------------|----------------|
| Logit | 0.8034 | 0.0000 | 1.0000 | 0.4790 | 0.0000 | 0.1778 |
| LDA | 0.8034 | 0.0000 | 1.0000 | 0.5549 | 0.0921 | 0.1836 |
| QDA | 0.7671 | 0.0761 | 0.9362 | 0.5519 | 0.0104 | 0.1284 |
| KNN(5) | 0.7628 | 0.0978 | 0.9255 | 0.5849 | 0.0002 | 0.4500 |
| SVM Linear | 0.8034 | 0.0000 | 1.0000 | | | |
| SVM Poly | 0.7756 | 0.0435 | 0.9548 | | | |
| SVM Radial | 0.8034 | 0.0000 | 1.0000 | | | |
| Tree | 0.7094 | 0.2174 | 0.8298 | 0.5358 | 0.0921 | 0.3875 |
| Pruned Tree (20) | 0.7756 | 0.0326 | 0.9574 | 0.5605 | 0.0000 | 0.0821 |
| Bagged Tree | 0.7885 | 0.1304 | 0.9495 | 0.5345 | 0.0016 | 0.1890 |
| Random Forest | 0.7949 | 0.1196 | 0.9601 | 0.4585 | 0.0014 | 0.2110 |

Prior Frequencies in Test Set for class Target [0.1965812, 0.8034188]

Table 3: **Comparison of Classification Models (Top 50 Minimum 5 Weeks)**

| | Accuracy | Sensitivity | Specificity | AUC | Brier Score | Best Threshold |
|------------------|----------|-------------|-------------|--------|-------------|----------------|
| Logit | 0.8718 | 0.0000 | 1.0000 | 0.5151 | 0.0008 | 0.0568 |
| LDA | 0.8718 | 0.0000 | 1.0000 | 0.5225 | 0.1382 | 0.0942 |
| QDA | 0.8718 | 0.0000 | 1.0000 | 0.5494 | 0.0022 | 0.1002 |
| KNN(5) | 0.8675 | 0.0000 | 0.9951 | 0.5307 | 0.0003 | 0.3667 |
| SVM Linear | 0.8718 | 0.0000 | 1.0000 | | | |
| SVM Poly | 0.8590 | 0.0167 | 0.9828 | | | |
| SVM Radial | 0.8718 | 0.0000 | 1.0000 | | | |
| Tree | 0.7735 | 0.1833 | 0.8603 | 0.4980 | 0.1382 | 0.0476 |
| Pruned Tree (20) | 0.8397 | 0.0333 | 0.9583 | 0.4638 | 0.0004 | 0.0663 |
| Bagged Tree | 0.8654 | 0.0667 | 0.9828 | 0.5381 | 0.0000 | 0.1770 |
| Random Forest | 0.8632 | 0.0500 | 0.9828 | 0.5291 | 0.0000 | 0.1700 |

Prior Frequencies in Test Set for class Target [0.1282051, 0.8717949]