

8 Model Performance Comparison Table (Training Set vs Validation Set CV)

| 模型 | 特征数 | 标准化方法 | 训练集准确率 (95%CI) | 验证集准确率 (95%CI) | 训练集AUC (95%CI) | 验证集AUC (95%CI) | 训练集精确率 | 验证集精确率 | 训练集召回率 | 验证集召回率 | 训练集F1 | 验证集F1 |
|--------------------|-----|----------------|-------------------------|-----------------------|-------------------------|-----------------------|---------|--------|---------|--------|---------|--------|
| LogisticRegression | 10 | StandardScaler | 94.52 (92.59, 96.45) | 92.56 (85.88, 99.24) | 97.91 (97.19, 98.62) | 91.98 (83.96, 100.00) | 97.39% | 96.88% | 94.12% | 91.18% | 95.73% | 93.94% |
| SGD | 10 | RobustScaler | 92.61 (89.56, 95.65) | 92.86 (83.83, 100.00) | 96.84 (96.03, 97.66) | 90.83 (78.66, 100.00) | 94.14% | 94.12% | 94.54% | 94.12% | 94.34% | 94.12% |
| SVM | 10 | StandardScaler | 94.50 (93.08, 95.92) | 88.99 (80.41, 97.56) | 97.21 (96.39, 98.04) | 93.33 (86.00, 100.00) | 95.80% | 91.18% | 95.80% | 91.18% | 95.80% | 91.18% |
| ExtraTrees | 10 | StandardScaler | 93.14 (92.00, 94.28) | 88.99 (80.41, 97.56) | 98.91 (98.57, 99.26) | 93.33 (84.74, 100.00) | 92.77% | 86.84% | 97.06% | 97.06% | 94.87% | 91.67% |
| NeuralNetwork | 10 | StandardScaler | 96.44 (95.51, 97.37) | 88.99 (76.54, 100.00) | 98.12 (97.36, 98.89) | 93.23 (84.92, 100.00) | 97.47% | 91.18% | 97.06% | 91.18% | 97.26% | 91.18% |
| KNN | 10 | StandardScaler | 100.00 (100.00, 100.00) | 87.20 (77.17, 97.24) | 100.00 (100.00, 100.00) | 88.12 (76.11, 100.00) | 100.00% | 86.49% | 100.00% | 94.12% | 100.00% | 90.14% |
| GradientBoosting | 10 | StandardScaler | 98.63 (97.27, 99.99) | 84.82 (74.96, 94.68) | 99.92 (99.83, 100.00) | 79.48 (66.98, 91.98) | 98.74% | 88.24% | 99.16% | 88.24% | 98.95% | 88.24% |
| RandomForest | 10 | StandardScaler | 97.52 (96.86, 98.19) | 80.95 (71.99, 89.92) | 99.63 (99.37, 99.89) | 89.79 (80.48, 99.11) | 98.72% | 83.33% | 97.48% | 88.24% | 98.10% | 85.71% |