**Table S1.** Prediction of filaggrin gene loss-of-function mutation (homozygous, compound heterozygous, or heterozygous) for both histogram of oriented gradients (HOG) and Haralick features and various classifiers using thenar images.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Classifier | Haralick | | | Histogram of Oriented Gradients (HOG) | | |
| Accuracy | Sensitivity | Specificity | Accuracy | Sensitivity | Specificity |
| 3NN | 63.9% (5.2) | 48.28% (10.2) | 74.4% (10.4) | 60.7% (9.5) | 19.4% (11.6) | 86.3% (5.0) |
| 5NN | 63.7% (3.8) | 42.7% (10.6) | 77.4% (10.5) | 64.6% (9.5) | 19.8% (9.9) | 92.4% (4.1) |
| SVM-Linear | 75.5% (5.2) | 58.0% (10.8) | 86.3% (8.6) | 65.3% (6.5) | 46.5% (9.9) | 78.0% (10.2) |
| SVM-RBF | 67.1% (7.9) | 19.4% (5.5) | 96.3% (3.2) | 64.9% (10.5) | 22.4% (11.0) | 92.1% (4.9) |

Presented as percentage (standard deviation)

NN = nearest-neighbour

SVM = support vector machine

RBF = radial basis function

**Table S2.** Prediction of filaggrin gene loss-of-function mutation (homozygous, compound heterozygous, or heterozygous) for both histogram of oriented gradients (HOG) and Haralick features and various classifiers using palm images.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Classifier | Haralick | | | Histogram of Oriented Gradients (HOG) | | |
| Accuracy | Sensitivity | Specificity | Accuracy | Sensitivity | Specificity |
| 3NN | 60.8% (9.4) | 41.3% (14.3) | 73.7% (8.4) | 53.2% (7.0) | 40.9% (13.9) | 60.5% (7.6) |
| 5NN | 61.6% (8.2) | 39.6% (10.7) | 76.3% (11.7)) | 58.9% (6.5) | 37.1% (12.5) | 72.2% (8.6) |
| SVM-L | 71.3% (6.9) | 44.6% (12.3) | 88.3% (5.4) | 66.0% (8.8) | 39.7% (14.7) | 82.4% (6.8) |
| SVM-RBF | 64.6% (5.7) | 13.8% (6.6) | 96.5% (4.5) | 62.3% (7.0) | 2.5% (3.9) | 99.2% (1.4) |

Presented as percentage (standard deviation)

NN = nearest-neighbour

SVM = support vector machine

RBF = radial basis function