

Rock-Paper-Scissors

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Main Goal

- We decided to focus on the classification of images.
- Our main goal is to classify the gesture in the photo as one of the three movements from the "Rock-Paper-Scissors" game with best possible accuracy.

Data

On Kaggle we have many datasets with photos to use, such as:

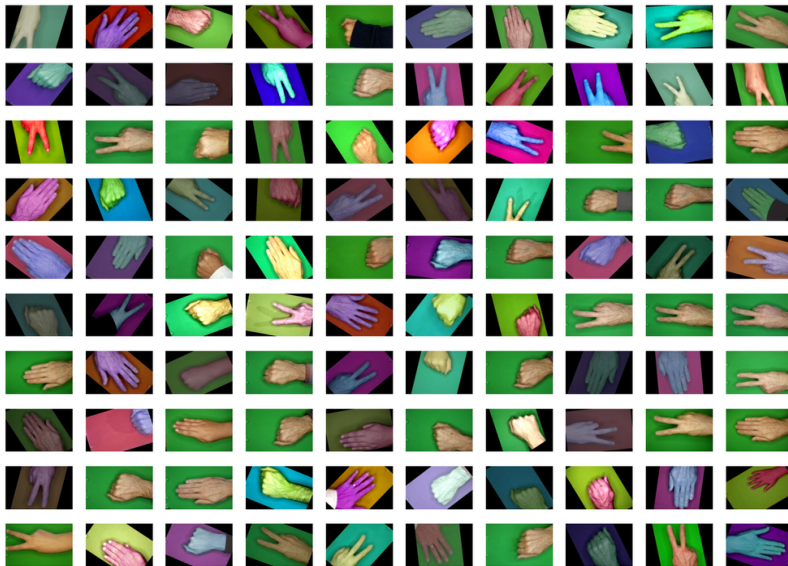
- Rock-Paper-Scissors Images
- Rock Paper Scissors 0528
- Rock Paper Scissors Dataset
- rock paper scissors images
- rock-paper-scissors



Clear dataset (no augmentation)

Model	No PCA	PCA
KNN	91.32%	91.55%
Decision tree	84.02%	73.97%
Random Forest	94.74%	90.18%
XGBoost	N/A	91.09%
Support Vector Machine	68.72%	68.03%

Augmented dataset



Augmented dataset

Model	No PCA	PCA
KNN	68.59%	69.78%
Decision tree	64.93%	58.59%
Random Forest	86.41%	76.92%
XGBoost	N/A	87.26%
Support Vector Machine	43.86%	45.06%

What next?

- Preprocessing
- Feature extraction
- Extended training set by self-made photos of hands.

