

Signature Verification using Convolutional Neural Networks for Forgery Detection

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Abstract: *Despite ongoing research in the field, the challenge of fully solving handwritten signature verification persists. Handwritten signatures play a vital role in authentication and proof within our social and legal spheres. Approval is granted only when a signature originates from the intended recipient, as it is highly unlikely for two signatures created by the same individual to be identical [7]. Even when the same person creates two signatures, numerous signature characteristics can undergo changes, making forgery detection a complex task. Signature verification systems aim to distinguish between genuine and counterfeit signatures. In this study, a proposed approach for signature verification utilizes convolutional neural networks (CNNs). By employing a CNN model, a more precise representation of image information can be extracted. The CNN model is trained on raw signature images to perform feature extraction and data augmentation, enabling judgments regarding the authenticity or falsification of a given signature. This software holds potential for verifying signatures across diverse platforms, including loan and application signings, as well as legal document authentication.*

Keywords: CNN, feature extraction, pre-processing, machine learning, RELU, and deep learning

VI. REFERENCES

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