

Recognition of Sinhala handwritten characters using Artificial Neural Networks

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In the Government of Sri Lanka, most of the information based activities are still carried out manually. This research attempt proposes a new way to automate an important public service which is fundamental by nature, issuing the National Identity Card (NIC). This presents an approach to recognize Sinhala handwritten characters in application forms. Initially, set of handwritings of 30 individuals were collected and then two third of those samples was used for the training process and the remaining one third was used for the testing process. The scanned images of the characters were gone through preprocessing for further processing. Finding boundaries and the normalization of the characters was handled by the preprocessor. After preprocessing, segmentation was done in order to get the individual characters from the list of characters. Standard image processing techniques were employed to accomplish these tasks. Then they were trained by an Artificial Neural Network (ANN). The recognition of Sinhala characters is done by an ANN which is widely used in applications involving uncertainty. Rules are imposed on the results of the neural networks (NN) to make the recognition process more accurate. Then the details of the applicant are appended to the database. The outcome of this research will be beneficial to the general public at large.

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