ABSTRACT

ANALYSIS OF THE SIMILARITY OF THE ANCIENT LETTERS OF THE INDUS RIVER VALLEY CIVILIZATION WITH THE ANCIENT LETTERS OF THE ABUGIDA FAMILY AND PHOENICIAN USING DEEP LEARNING

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The indus river valley civilization is one of the oldest civilizations in the world, this civilization is said to be the forerunner of modern civilization today because the indus civilization already has and applies all aspects of modern life today such as having a government system, language system, transaction system and others. Of the many ancient typefaces that exist in the world, there are letters or languages that no longer have speakers such as akkadian, summerian, Egyptian and others. However, until now the language of this civilization has not been able to be translated because the artifacts found only contain short symbols, making it difficult for archaeologists to translate them. In previous studies, namely examining the similarity of indus letters with ancient letters brahmi and phoenician, it was found that indus letters have a high degree of probability with ancient phoenician letters, testing using a deep learning approach with convolutional neural network algorithms. CNN is known to have a good level of accuracy and performance in classifying images, therefore in this study using the CNN method in analyzing the probability of similarity of indus letters with ancient letters of the abugida and phoenician families. In this test using the cnn architecture that has been created by researchers with four layers of filters and six filter schemes, the average result of the probability of accuracy of 94% was obtained with the highest probability of accuracy of 100% and the lowest probability of accuracy of 31%. So based on these results the ancient letters abugida and phoenician are likely to be descendants of the ancient letters indus.

Keyword: Indus, Abugida, Phoenician, Deep Learning, CNN