ABSTRACT

Russian language ranked as the sixth most spoken language in the world. It shows a high interest of the world population to use and learn the language. The Russian language has different alphabets from Indonesian language, which is called Cyrillic. It has a different shape from the alphabets in general which makes some obstacles in order to learn, understand and pronounce it. Currently, technology is growing really fast, and it changed people's lifestyle to be more practical and mobile so that smartphone becomes one of the society's needs. Android is one of the most used operating system in smartphone nowadays, so the Capture to Translate was built in android-based.

Capture to Translate is a media which is designed as a solution for those problems. The system was built based on image processing, feature extraction process and artificial intelligence using Random Forest algorithm classification with interface Android mobile application that utilizes the camera as an input device.

The test conducted in this study gives the best accuracy value at 93,33% for one syllable, 90% for two syllables, and 84,29% for three syllables and it achieved using 6MP resolution with a distance of 30cm. The test also shows that the level of alphabet complexity, resolution, distance, angle and lighting of an image have an influence on transliteration process.

Keywords : Russian, Cyrillic, Capture to Translate, Image Processing, Artificial Intelligence, Random Forest, Android.