Abstract

An EKTP image repository can be a helpful tool to assist human operators in EKTP image pair checking. But, such a repository needs a solid validation that has verification and matching uploaded images. To solve this problem, this paper implementing a detection model using Faster R-CNN and a matching method using ORB (Oriented FAST and Rotated BRIEF) and KNN-BFM (K-Nearest Neighbor Brute Force Matcher). The goal of the implementations is to reach both an 80% mark of accuracy and prove matching using ORB only can be a replaced OCR technique. The implementation accuracy results in the detection model reach mAP (Mean Average Precision) of 94%. But, the matching process only achieves an accuracy of 43,46%. The matching process using only image feature matching underperforms the previous OCR technique but improves processing time from 4510ms to 60m). Image matching accuracy has proven to increase by using a high-quality dan high quantity dataset, extracting features on the important area of EKTP card images.

Keywords: *Detection, Matching, Identity Card, EKTP, ORB, Faster R-CNN.*