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Video-Based Content Recognition of Bank Cards with Mobile Devices

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Abstract

In this paper, we propose an algorithm for detection and recognition of all information fields at the bank card front side based on video sequences. The algorithm is intended for use on mobile devices. This algorithm consists of the following basic steps: detection of the card boundaries in a frame, segmenting the information fields, improving the quality of segments, localizing the boundaries of symbols, and recognizing blocks of symbols. We also conduct a series of experiments. Experimental results show that our algorithm can achieve higher detection rates of 88% for all information fields and 92.5% for the bank card number and expiration date. The processing time per frame at different resolutions for each step by using iPhone 7 is presented. The experimental results confirm the efficiency of the proposed approach.

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