

## Topology-Based Character Recognition Method for Coin Date Detection

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**Abstract :** For recognizing coins, the grained release date is important information to identify precisely its monetary type. However, reading characters in coins meets much more obstacles than traditional character recognition tasks in the other fields, such as reading scanned documents or license plates. To address this challenging issue in a numismatic context, we propose a training-free approach dedicated to detection and recognition of the release date of the coin. In the first step, the date zone is detected by comparing histogram features; in the second step, a topology-based algorithm is introduced to recognize coin numbers with various font types represented by binary gradient map. Our method obtained a recognition rate of 92% on synthetic data and of 44% on real noised data.

**Keywords :** coin, detection, character recognition, topology

**Conference Title :** ICIAP 2016 : International Conference on Image Analysis and Processing

**Conference Location :** Paris, France

**Conference Dates :** October 24-25, 2016