

Finger Print Authentication on Web-Services One Step to Next Security

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Abstract: *The system that automatically identifies the anthropometric fingerprint is one of the systems that interact directly with the user, which every day will be provided with a diverse database. This requires the system to be optimized to handle the process to meet the needs of users such as fast processing time, almost absolute accuracy, no errors in the real process. Therefore, in this paper, we propose the application of machine learning methods to develop fingerprint classification algorithms based on the singularity feature. The goal of the paper is to reduce the number of comparisons in automatic fingerprint recognition systems with large databases. The combination of using computer vision algorithms in the image pre-processing stage increases the calculation time, improves the quality of the input images, making the process of feature extraction highly effective and the classification process fast and accurate. The classification results on 3 datasets with the criteria for Precision, Recall, Accuracy evaluation and ROC analysis of algorithms show that the Random Forest (RF) algorithm has the best accuracy ($\geq 96.75\%$) on all 3 databases, Support Vector Machine (SVM) has the best results ($\geq 95.5\%$).*

Keywords: Fingerprint, Web Authentication, Security

REFERENCES

- [1]. Nagar, K. Nandakumar and A. K.Jain, "Multibiometric
- [2]. Cryptosystems Based on Feature-Level Fusion," IEEE ,pp. 256-278, Feb 2012.
- [3]. Norman Poh and Josef Kittler, "A Unified Framework for Biometric Expert Fusion Incorporating Quality Measures," IEEE , pp. 3-17, Jan 2012.
- [4]. J.Dai and J.Zhou, "Multifeature Based High-Resolution palmprint Recognition," IEEE , pp. 945-957, May 2011.
- [5]. E. Maiorana and P. Campisi, "Fuzzy Commitment for Function based Signature Template Protection," IEEE, pp.249-252, Mar 2010