IMPROVING KEYSTROKE DYNAMICS USER AUTHENTICATION IDENTIFYING DISCRIMINATING FEATURES

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Keystroke biometrics refers to the science of recognizing subjects based on an analysis of their typing dynamics. Keystroke dynamics has been explored as a good biometric method in applications where the main concern is the user authentication, and the data security has not the greatest importance. It is also the cheapest biometric method available once it demands only a software implementation and no one additional hardware is needed. However papers in this area are concerned about the classification method and the accuracy, concordance and error rates, describing and comparing method's performance. The performance results from different methods applied to this problems does not show significant differences, such that one can thought that little improvement could be reached despite the method in use. The analysis of the behavior in typing (like use of <Shift> key) and the discrimination power of different digraphs (latency between two consecutive keystrokes) provide further parameters making the authentication more efficient and accurate. For example, the farther is one key to the other, the greater is the discrimination based on this digraph. Our study presents results of multivariate analysis from an experiment comprising 40 subjects typing same texts and different words and the performances based on this few more discriminative features comparing to the traditional analysis.