ABSTRACT

Computer security has become an indispensable and critical aspect in the motif, evolution and application of computer. Since cyber crime and security remain the dominant preoccupations of the computer professionals in the global scenario, the current study is attempted to set apart a secure security system to prevent or incapacitate all forms of “attacks”. The major technical segments of computer security are more habitually identified in terms of confidentiality, integrity and authentication or availability. Of these, authentication is our domain of research which is defined as confirming the truth of an attribute of a datum or entity. The universal riddle of authentication and authorization in a computer system is access control.

The biometric authentication, initiated on the exclusive physiological and behavioural aspects to identify a human being, is reliable and easily verifiable and the second component of the study encompasses the expression and function of a generic biometric system. Keystroke dynamics is singled out as a strong behavioural biometric authentication system which uses the manner and rhythm in which an individual types characters on a keyboard. This procedure is explained with features like dwell time, flight time, di-graph, tri-graph, virtual key force and GA based wrapper approach. This third division ends with the note that this scheme is efficiently helpful and successfully operational. Since Particle Swarm Optimization is an inherent aspect in the revelation of Keystroke dynamics, the fourth section is devoted to the basics of PSO.
A different perspective of keystroke dynamics is evaluated in the fifth section with users under diverse emotional states while typing the text. The use of Particle Swarm Optimization algorithm is used in feature selection because it makes available enhanced rate of accurate identification. In the succeeding section, a parallel study and analysis of the Genetic Algorithm and Particle Swarm Optimization is embarked upon and the wrapping up is biased towards PSO. The summing up of the investigation indicates the superiority of keystroke dynamics as an ultra reinforcement factor in computer security.