

Abstract

In today's digital era, data privacy and security are crucial. Traditional authentication methods like passwords and PINs have several weaknesses, such as being easily lost or stolen. To address these flaws, biometric technologies have emerged as alternatives, with keystroke dynamics being one of them. Keystroke dynamics can add an extra layer of security by authenticating or verifying users through their typing patterns. This study focuses on exploring the Distance Enhanced Flight-Time (DEFT) method to develop a keystroke dynamics-based authentication (KDA) system. DEFT is a feature extraction method that combines the time of key presses with the distance between keys on the keyboard. The KDA system is built using XGBoost as a binary classification model to authenticate users based on DEFT features. Based on the experiment result using Biomey keystroke dataset, the proposed system achieves an average FAR of 4.71% and an FRR of 14.59%.

Keywords: biometric, keystroke dynamics, authentication, DEFT, XGBoost