

Graduate School of Science and Technology Master's Thesis Abstract

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Thesis title	Addressing Variations in Behavioral Biometrics for Continuous Authentication in Internet Banking on Desktop and Laptop Devices		
Abstract			
<p>As Internet banking continues to grow in popularity, so do the threats and fraudulent activities targeting users and financial institutions. Traditional security mechanisms such as passwords, multi-factor authentication (MFA), and hardware-based tokens have proven insufficient for preventing unauthorized access during active sessions, leaving users vulnerable to evolving attack vectors. In response to these challenges, continuous authentication using behavioral biometrics has emerged as a promising solution. Unlike static biometrics like fingerprints or facial recognition, behavioral biometrics—which monitor dynamic user activities such as keystroke dynamics and mouse movements—offer a non-intrusive method for continuously verifying users in real time. However, a significant hurdle in applying this technology to continuous authentication is concept drift, where a user's behavior changes over time, leading to potential authentication failures. This study focuses on mitigating these behavioral variations in continuous authentication systems, particularly for desktop and laptop devices accessing web-based banking platforms. By addressing concept drift and adapting the system to dynamic user behavior, this research contributes to the development of more secure, user-friendly authentication systems for the rapidly evolving landscape of internet banking.</p>			