

Enhancing WBAN Security using Biologically Inspired Cryptographic Keys

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Abstract: *A paper on WBAN security proposes using biological data for key generation within an Advanced Encryption Standard (AES) framework to enhance data confidentiality and user authentication in health monitoring systems. The framework leverages patients' and doctors' unique biological characteristics to create unique encryption keys, providing strong security for sensitive medical data transmitted through the Wireless Body Area Network (WBAN). The study includes implementation in a cloud-based environment to evaluate end-to-end data transmission delay, offering practical insights and experimental results for a secure WBAN system with biological keys*

Keywords: Wireless Body Area Network (WBAN), Healthcare Security, Biological Key Generation, Physiological Signals, Electrocardiogram (ECG), Photoplethysmogram (PPG), Biometric Cryptography, Lightweight Encryption, Key Agreement Protocol, Privacy Preservation, Authentication, Energy-Efficient Security, Secure Data Transmission

