عنوان مقاله:

A Novel Approach to use Deep Dyna Q Learning for Enhancing Selection and Performace of Encryption and Hashing Techniques in Remote Healthcare Environment

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خلاصه مقاله:

This paper introduces a novel approach that adeptly navigates this trade-off, significantly enhancing the deployment efficiency of remote healthcare systems. The existing methodologies in remote healthcare networks typically face challenges in balancing robust security measures with the need for high-speed data transmission. This model meticulously selects from a pool of encryption methods — AES, RSA, ECC, DSA, Blowfish, TwoFish — and hashing methods — Argon۲, SHA۱, SHA۲۵۶, SHA۵۱۲, MD۵, Bcrypt — to tailor a solution that upholds high security while enhancing speed. The rationale behind employing GCN lies in its ability to efficiently handle the complex, non-linear relationships among different encryption and hashing techniques, while Deep Dyna Q Learning dynamically adjusts hyperparameters to optimize for speed without compromising security.The results were compelling, showcasing an ۸.۵% improvement in energy efficiency, a ۴.۹% increase in speed, an ۸.۳% rise in throughput, a ۵.۹% enhancement in packet delivery ratio, and a ۳.۹% boost in communication consistency compared to existing methods. Notably, this enhanced performance was maintained even under various security threats, including Sybil, masquerading, spoofing, and spying attacks.

کلمات کلیدی:

Remote Healthcare Systems, Graph Convolutional Networks, Deep Dyna Q Learning, Data Encryption Optimization, Network Security Enhancement

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