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SQL Injection Detection Model Using Autoencoder-Tokenization-TCN Approach

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SQL injection attacks pose a significant threat to database security, potentially leading to data breaches and unauthorized access. This paper presents a novel approach to SQL injection detection using a combination of deep learning techniques: autoencoders, tokenization, and Temporal Convolutional Networks (TCNs). The proposed method aims to accurately differentiate between legitimate SQL queries and SQL injection attempts by leveraging the temporal and structural patterns inherent in the query data. The system utilizes autoencoders to learn a compressed representation of normal queries, tokenization for converting queries into sequence data, and TCNs for capturing temporal dependencies.

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