

ABSTRAK

Kota Medan mengalami peningkatan prevalensi penggunaan narkoba yang memperihatinkan. Hal ini memerlukan solusi yang efektif untuk mendeteksi dan memerangi penyalahgunaan narkoba. Penelitian ini bertujuan untuk meningkatkan akurasi deteksi pengguna narkoba di Kota Medan menggunakan metode Support Vector Machine (SVM). Data penelitian dikumpulkan dari berbagai sumber terpercaya seperti Badan Narkotika Nasional (BNN), Polda Sumut, dan Dinas Kesehatan Kota Medan. Data tersebut kemudian dianalisis menggunakan metode SVM untuk mengklasifikasikan pengguna narkoba dan bukan pengguna narkoba. Penelitian ini menunjukkan hasil yang signifikan dengan akurasi deteksi SVM mencapai 98.0%. Hal ini jauh lebih tinggi dibandingkan dengan metode sebelumnya yang menggunakan algoritma Convolutional Neural Networks (CNN) dengan akurasi 83,33%. Temuan penelitian ini menunjukkan bahwa metode SVM dapat menjadi alat yang efektif untuk mendeteksi pengguna narkoba dengan akurasi yang tinggi. Hasil penelitian ini diharapkan dapat membantu pemerintah dalam merumuskan kebijakan dan strategi yang tepat untuk memerangi penyalahgunaan narkoba di Kota Medan

Kata Kunci : Narkoba, Support Vector Machine, Kota Medan

ABSTRACT

Medan city is currently experiencing a troubling rise in the prevalence of drug abuse, necessitating effective strategies for detection and intervention. This research aims to improve the accuracy of identifying drug users in Medan using the Support Vector Machine (SVM) method. Data for the study were sourced from reputable institutions including the National Narcotics Agency (BNN), North Sumatra Regional Police (Polda Sumut), and the Health Office of Medan City. SVM was employed to analyze these datasets and distinguish between drug users and non-users. The study revealed that SVM achieved an impressive detection accuracy of 98.0%, a notable improvement compared to earlier approaches like Convolutional Neural Networks (CNN), which attained 83.33% accuracy. These findings highlight SVM's effectiveness as a robust tool for accurately identifying drug users. The outcomes of this study are anticipated to aid government entities in crafting targeted policies and strategies to combat drug abuse in Medan. By harnessing SVM technology, law enforcement and healthcare authorities can bolster their capabilities in swiftly and precisely detecting and responding to drug-related issues. This research contributes significantly to advancing methodologies in drug abuse detection, emphasizing SVM's pivotal role in achieving superior detection rates. In conclusion, the application of SVM in this study not only enhances detection accuracy but also underscores its potential as a reliable technology for addressing the growing challenge of drug abuse in urban settings like Medan. Future research could further refine SVM models and explore additional datasets to validate its efficacy in real-world scenarios, thereby strengthening efforts to mitigate the societal impact of drug misuse.

Keywords: Drugs, Support Vector Machine, Medan City.