

# **PREDIKSI RISIKO IBU HAMIL MELAHIRKAN ANAK STUNTING MENGUNAKAN ALGORITMA *SUPPORT VECTOR MACHINE***

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## **ABSTRAK**

Stunting pada balita masih menjadi masalah kesehatan yang krusial di lingkungan masyarakat. Stunting pada bayi yang baru lahir ditandai dengan panjang badan lahir dan berat badan lahir yang lebih rendah dari kondisi normal. Dampak stunting dapat menyebabkan masalah kesehatan serius jangka pendek dan jangka panjang jika tidak segera diatasi. Kondisi stunting pada bayi yang baru lahir erat kaitannya dengan riwayat ibu dan status gizi ibu saat masa kehamilan. Penelitian ini bertujuan menerapkan algoritma *Support Vector Machine* dalam memprediksi risiko ibu hamil melahirkan anak stunting. Dengan mempertimbangkan data yang digunakan dari Puskesmas Pembantu di Sukasada II dengan tujuh variabel bebas dan satu variabel terikat. Penelitian ini menggunakan metode pengembangan yang didasari dari penambahan data dengan *Support Vector Machine*. Hasil penelitian berupa algoritma dalam memprediksi ibu hamil melahirkan anak stunting dengan Algoritma *Support Vector Machine* dan sudah dapat diimplementasikan menjadi aplikasi. Hasil pengujian menunjukkan bahwa algoritma *Support Vector Machine* memiliki *accuracy* 88,89%, *precision* 88,3%, dan *recall* 88,89% dalam memprediksi risiko ibu hamil melahirkan anak stunting. Mempertimbangkan kemudahan operasional, penerapan algoritma *Support Vector Machine* dalam memprediksi risiko ibu hamil melahirkan anak stunting diimplementasikan dalam aplikasi *Pregnancy Check-Up App*. Aplikasi dirancang untuk mempermudah dalam melakukan prediksi risiko ibu hamil melahirkan anak stunting secara dini tanpa melakukan proses analisis algoritma *Support Vector Machine*. Aplikasi memiliki fitur utama yaitu diagnosis awal dan beberapa fitur tambahan yang menunjang penggunaan aplikasi. Hasil pengujian menunjukkan *Pregnancy Check-Up App* telah melewati pengujian dengan baik dan menunjukkan validasi *input-output* sesuai harapan.

Kata kunci: kehamilan berisiko, stunting, data mining, algoritma *Support Vector Machine*, aplikasi

## ABSTRACT

Stunting in toddlers is still a crucial health problem in society. Stunting in newborn babies is characterized by birth length and birth weight that are lower than normal conditions. The impact of stunting can cause serious short-term and long-term health problems if not addressed immediately. The condition of stunting in newborn babies is closely related to the mother's history and the mother's nutritional status during pregnancy. This research aims to apply the algorithm Support Vector Machine in predicting the risk of pregnant women giving birth to stunted children. By considering the data used from the Assistant Community Health Center in Sukasada II with seven independent variables and one dependent variable. This research uses a development method based on data mining with Support Vector Machine. The research results are in the form of an algorithm for predicting pregnant women giving birth to stunted children using the algorithm Support Vector Machine and can now be implemented into an application. The test results show that the algorithm Support Vector Machine own accuracy 88,89%, precision 88.3%, and recall 88.89% in predicting the risk of pregnant women giving birth to stunted children. Considering the operational ease, implementation of the algorithm Support Vector Machine in predicting the risk of pregnant women giving birth to stunted children, it is implemented in the application Pregnancy Check-Up App. The application is designed to make it easier to predict the risk of pregnant women giving birth to stunted children early without carrying out an algorithm analysis process Support Vector Machine. The application has the main feature, namely initial diagnosis and several additional features that support application use. The test results show Pregnancy Check-Up App has passed testing well and shows validation input-output according to expectations.

Keywords: risky pregnancy, stunting, data mining, Support Vector Machine algorithm, application