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Diabetes Prediction Model Comparison between XgBoost and SVM Algorithms

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Abstract: *Diabetes is a global health epidemic. It increases the danger of cardiovascular disease by fourfold in women and around twice in men. 'Diabetes' is an umbrella term for a number of different subtypes of the disease. The most common are Type 1 Diabetes Mellitus (T1DM) and Type 2 Diabetes Mellitus (T2DM). Compared to men, women are also at a greater risk of retinopathy and neuropathy from diabetes. Pregnancy may worsen pre-existing conditions and lead to significant blindness. It also aggravates pre-existing kidney diseases. Elderly women with type 2 diabetes mellitus (T2DM) and end-stage renal disease have a significantly higher risk of death than men with similar diseases. Women with diabetes have higher chances of suffering a stroke in comparison to women without it. Women are also more likely to develop depression compared to men. The modeling of support vector machines may additionally be a promising classification technique for identifying women among the population with common diseases like polygenic disorder and pre-diabetes. We use different algorithms for classification, XGBoost based on SVM with GridSearchCV predict results with 83.5% accuracy.*

Keywords: Machine Learning, Support Vector Machine, Algorithms, Medical Diagnosis, Classification.

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