Universiti Teknologi MARA

Sentiment Analysis on Covid-19 Outbreak Using PSO-SVM

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ABSTRACT

The COVID-19 pandemic has had a huge influence on worldwide society, resulting in widespread lockdowns and considerable changes in everyday life. This project provides the analyzation of attitudes expressed in textual data connected to the COVID-19 outbreak using Particle Swarm Optimization with Support Vector Machines (SVM). This project is driven by the objectives to identify the requirement of Particle Swarm Optimization with Support Vector Machines (PSO-SVM) in sentiment analysis of covid-19 tweets, to apply the PSO-SVM method for sentiment analysis that classified tweets accurately and to evaluate the result of the PSO-SVM model for Covid-19 outbreak sentiment analysis. PSO is an optimization technique by searching decision space by sharing global information between different particles. SVM is a supervised learning model that looks at data for classification by searching hyperplane between classes. The created model achieves 73% accuracy in predicting sentiment of tweets when using a Linear SVM kernel with 70:30 percentage split ratio. The project is set to be improved by using a well-constructed SVM algorithm that can handle large data very well, using a more powerful hardware and unlimiting the language use to train the PSO-SVM.

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