

Penerapan Metode Multinomial *Naïve Bayes* dengan *Feature Selection Particle Swarm Optimization* terhadap Sentimen Ulasan Produk

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Abstract

Most of E-commerce site users in the field of beauty are women. Beauty product such as cosmetics or skincare are becoming the most-sought after products. Consumers can read some reviews according to the product that they have some interest in, this is done as a form to increase the credibility of the products. Reading tons of reviews takes a lot of time. Thus, in this research invented a system that conducts to advance the categorization of sentiment analysis reviews in the form of positive sentiment or negative sentiment. This study uses Multinomial *Naïve Bayes* Method with *Particle Swarm Optimization* selection feature. The *Particle Swarm Optimization* applied in this method as in use to decrease the attribute that are less relevant in classification. The input of this system is 5000 beauty dataset from Amazon, then this dataset is labelled manually. The output of this study is an evaluation which using 10 fold cross validation, then the accuracy measurement using confusion matrix. Based on this study that has been done, the using of Multinomial *Naïve Bayes* with The *Particle Swarm Optimization* selection in the establishment of Sentiment Analysis system evident better with 85% accuration than Multinomial *Naïve Bayes* without using *Particle Swarm Optimization* selection feature which only has 71% accuracy.

Keywords: *Multinomial Naïve Bayes, Particle Swarm Optimization, skincare, confusion matrix, sentiment analysis, review*
