Naive Bayes modification for intrusion detection system classification with zero probability

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Abstract	One of the methods used in detecting the intrusion detection system is by implementing NaÃƒÂ¯ve Bayes algorithm. However, NaÃƒÂ¯ve Bayes has a problem when one of the probabilities is 0, it will cause inaccurate prediction, or even no prediction was found. This paper proposed two modifications for NaÃƒÂ¯ve Bayes algorithm. The first modification eliminated the variable that has 0 probability and the second modification changed the multiplication operations to addition operations. This modification is only applied when the NaÃƒÂ¯ve Bayes algorithm does not find any prediction results caused by zero probabilities. The results of this research show that the value of precision, recall, and accuracy in the modification made tends to increase and better than the original NaÃƒÂ¯ve Bayes algorithm. The highest precision, recall, and accuracy are obtained from modification by changing the multiplication operation to the addition. Increasing precision can reach 4%, increasing recall reaches 2% and increasing accuracy reaches 2%.
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