PROJECT REPORT

Comparison Bagging and Support Vector Machine for Classification Software Requirement

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ABSTRACT

Software Requirements Specifications is a document that describes the requirements that occur in the development of a software system. The category of requirements is defined in two types: Functional Requirements (FR) and Non-Functional Requirements (NFR). Software Requirements Engineering is critical in successfully designing a piece of software. Many studies have examined the classification of software requirements using machine learning, but none have compared bagging algorithms with Support Vector Machine. This study compares text feature extraction techniques with machine learning algorithms Bagging and Support Vector Machine to solve the Software Requirement Classification problem. Using vectorization technique s from word2vec : Continuous Bag of Words and Skip-gram can help produce the best model performance for Bagging and SVM models. In this study, the data used is expansion data from the PROMISE repository, namely PROMISE_exp, the repository is a collection of software requirements data that has been labeled. To measure performance, this study uses an evaluation matrix, namely precision, recall and f1-score. As a result, the two models that have been trained using the Continuous Bag of Words and skip-gram vectorization techniques will be compared to determine the more optimal model for classifying software requirements from the promise_exp repository.

Keyword: Bagging, Word2vec, Support Vector Machine, Software Requirement, Machine Learning