Development of Model for Detecting Consistency of Indonesian Reviews on Course Learning Processes Using Bert and Smart Approaches

Irvan Santoso
Computer Science Department, BINUS Graduate Program – Doctor of Computer Science, Bina Nusantara University, Jakarta, Indonesia

Edi Abdurachman
Computer Science Department, BINUS Graduate Program – Doctor of Computer Science, Bina Nusantara University, Jakarta, Indonesia

Harco Leslie Hendric Spits Warnars
Computer Science Department, BINUS Graduate Program – Doctor of Computer Science, Bina Nusantara University, Jakarta, Indonesia

Lili Ayu Wulandhari
Computer Science Department, BINUS Graduate Program – Doctor of Computer Science, Bina Nusantara University, Jakarta, Indonesia

Abstract

Education is essential in improving the quality of life of individuals, which can be accessed through formal structures such as schools and universities or informal pathways rooted in everyday experiences. These formal institutions require a structured enrollment process, in contrast to the flexibility of informal learning gained from environmental engagement. Universities and colleges, as education providers, offer specialized services that are essential to foster public trust in the quality of education and continuously improve the learning process across subjects. However, effective education improvement depends not only on the efforts of providers but also on the feedback of recipients. Students' perceptions, as measured through periodic satisfaction surveys that include Likert scale ratings and open-ended responses, illuminate their learning experiences and shape educational goals. Analyzing consistency between these responses is critical; differences can hinder accurate assessment. This study proposes a model to detect such consistency in an Indonesian university environment. By using sentiment analysis for open-ended feedback and categorization for closed-ended responses, as well as checking consistency between existing topics automatically, it aims to streamline the evaluation process, reduce manual workload, and ensure robustness in assessing the learning experience of subjects. The results of this study provide excellent accuracy values when compared to manual checking.

Keywords

Sentiment Analysis, Indonesian Reviews, Education, Learning Process, BERT.