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Course Evaluation System and Analysis Using Sentiment and Emotion Detection

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In modern educational contexts, assessing courses, instructors, and degree programs is essential for ensuring academic quality and student satisfaction. This research presents a Course Evaluation System and Analysis platform that enables students to rate their learning experiences and provide feedback through an automated web-based platform. The system integrates Natural Language Processing (NLP) techniques, including sentiment and emotion analysis, to interpret qualitative student feedback efficiently. Students can register, log in, and access personalized dashboards to evaluate courses and instructors. Sentiment analysis classifies comments as positive, negative, or neutral, while emotion detection identifies feelings such as joy, anger, or sadness. To validate analytical performance, 150 student feedback entries were evaluated using human coded labels. The sentiment classifier achieved 96.7% accuracy for positive comments, 95.6% for neutral comments, and 94.3% for negative comments, resulting in an overall accuracy of 95.5%. Emotion analysis further revealed the distribution of dominant emotions, with joy being the most frequent (42%), followed by neutrality related emotions such as calm (28%), and negative emotions including sadness and anger (combined 30%). Visualization tools such as word clouds and sentiment charts enable instructors to identify key feedback patterns easily, while administrative features support managing professor accounts and degree programs. This Course Evaluation System promotes a collaborative feedback culture among students, educators, and administrators, fostering evidence based teaching improvements and data driven decision making in higher education.

Keywords: Emotion analysis, Sentiment analysis, Word cloud.