# Project Abstract

The project titled “**Sentiment-Based Analysis for Hotel Rating System Using Enhanced Word-Level Feedback Analysis**” addresses the growing need for intelligent and reliable review-based hotel rating mechanisms. Conventional rating systems depend solely on numerical feedback provided by users, which often fails to capture the depth and variability of customer experiences expressed through textual reviews. This leads to misleading or inconsistent ratings that do not accurately reflect real user satisfaction.  
  
To overcome these limitations, this project introduces a sentiment-driven hotel rating framework that analyzes textual feedback at the word and aspect level using advanced Natural Language Processing (NLP) and deep learning techniques. The system extracts sentiment cues related to specific service categories such as cleanliness, hospitality, food quality, and ambience, enabling context-aware evaluation rather than generic polarity classification.  
  
A key innovation of the model lies in its use of BERT-based contextual embeddings, which capture semantic nuances and sentiment intensity far more effectively than traditional frequency-based or static word vector techniques. The sentiment classification module leverages fine-tuned BERT architectures trained on multilingual hotel review datasets to improve accuracy across diverse writing styles and tonal variations.  
  
The developed framework converts qualitative opinions into dynamic, sentiment-weighted rating scores, outperforming traditional averaging-based rating systems in precision and interpretability. This approach enables transparent, data-driven decision support for travelers, hotel administrators, and digital hospitality platforms, fostering enhanced trust and service optimization.