

# **Early-Stage Oral Cancer Identification Using White Light Imaging and Light GBM Algorithm**

## **ABSTRACT**

Oral cancer is a significant global health concern, and early detection is crucial for improving patient outcomes. This project utilizes machine learning, specifically the LightGBM algorithm, to enhance the accuracy and efficiency of oral cancer detection. The system is developed using Python, with Flask as the web framework and HTML, CSS, and JavaScript for the frontend interface. By analyzing white light images, the system can identify and classify different stages of oral cancer, aiding in early diagnosis and timely treatment.