

## DESIGN OF BI-MODAL POLYGRAPH USING LINEAR PREDICTIVE CODING AND LOCAL BINARY PATTERNS ALGORITHMS

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### ABSTRACT

The Automatic Facial Recognition System has been under research for over a decade now. Automating the classification and categorization of human emotions and expressions has been and ever will be a challenge because of the varied types of muscular as well as feature movements. This paper would focus on proposing a possibility of fabricating a polygraph i.e. a lie detector, fusing the two modes of expression recognition and voice recognition for better accuracy of the system. The various fundamental algorithms are studied and compared. This paper also throws light on the characteristics of the existing system as well as the a proposed suggestion of a new system, which when put into use can be very beneficial. Recent trends in the facial and voice recognition systems are also depicted along with a few screenshots of the basic results, graphical and pictorial, of various filters applied on image maps and voice samples. The paper ends with the mention of drawbacks of the existing system. This paper has been written with the intention of researching deeper into the field of Digital Signal Processing and doing that with the aim of a greater good.

**KEYWORDS:** Polygraph, expression recognition, voice recognition, Digital Signal Processing.

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