

**Hereditary Ratio of Adolescent to Parent Based on Lips Analysis
Using Canny Edge Detection**

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ABSTRACT

Edge detection is the process of finding sharp contrasts in intensities in an image. This process significantly reduces the amount of data in the image, while preserving the most important structural features of that image. Canny edge detection is considered to be the ideal edge detection algorithm for images that are corrupted with white noise. It consists of several steps that make this method as an optimal edge detector. The objective of this research is gained from understanding of the problem statement. This research intends to get the hereditary ratio of adolescents to parents based on lips features. The main idea of this research is to get the lips features from facial images before proceed to the next process which is pattern matching. In this research, technique selection is done by doing some literature review to find the best one and also studying about the algorithm of each technique has. The result of hereditary ratio will be gained by implementing statistical percentage based on average differences of threshold value. Lastly, a system prototype with interactive graphical user interface (GUI) was developed and tested for its reliability.

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CHAPTER 1

RESEARCH OVERVIEW

This chapter provides the background and rationale for the research project. It also discussed about the face recognition; background of the problems; problems statement; project objective; project scope and significance of research in face recognition that lead to this research.

1.0 Introduction

Face recognition is a difficult visual representation task in large part because it requires differentiating among objects which vary only subtly from each other. It represents a particularly interesting case within the context of object recognition. Human face recognition abilities provide convincing proof that the problem can be solved; we have the capacity for remembering and accurately distinguishing among hundreds, maybe even thousands of faces. Importantly, face recognition is also rich in application areas Mohamed Rizon et al (2006).

Facial recognition is a biometric method of identifying a person based on a photograph of their face. Biometric methods use biological traits to identify people. The human eye is naturally able to recognize people by looking at them. However, it recognizes known people much more easily than perfect strangers. Moreover,