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STUDENT DECLARATION

I hereby declare that this Major Project Report entitled **"Input Interface Using Eyes from Webcam Stream"** embodies the original project work carried out by me under the supervision and guidance of **Ms. Seema Yodha, Head of Department and Dr. Sanjay Dahiya, Assistant Professor** at the Department of Computer Science & Engineering, **Ch. Devi Lal State Institute of Engineering and Technology, Panniwala Mota (Sirsa), Haryana, India – 125077**. It is further certified that this complete project has been checked by **Turnitin Software** and after checked by **plagiarism software, the similarity index is as per University norms**. It is also certified that no part of this project work has been submitted, either in part or full for any other degree of **Guru Jambheshwar University of Science & Technology**, or any other University/Institution.

Date : 03.12.2019
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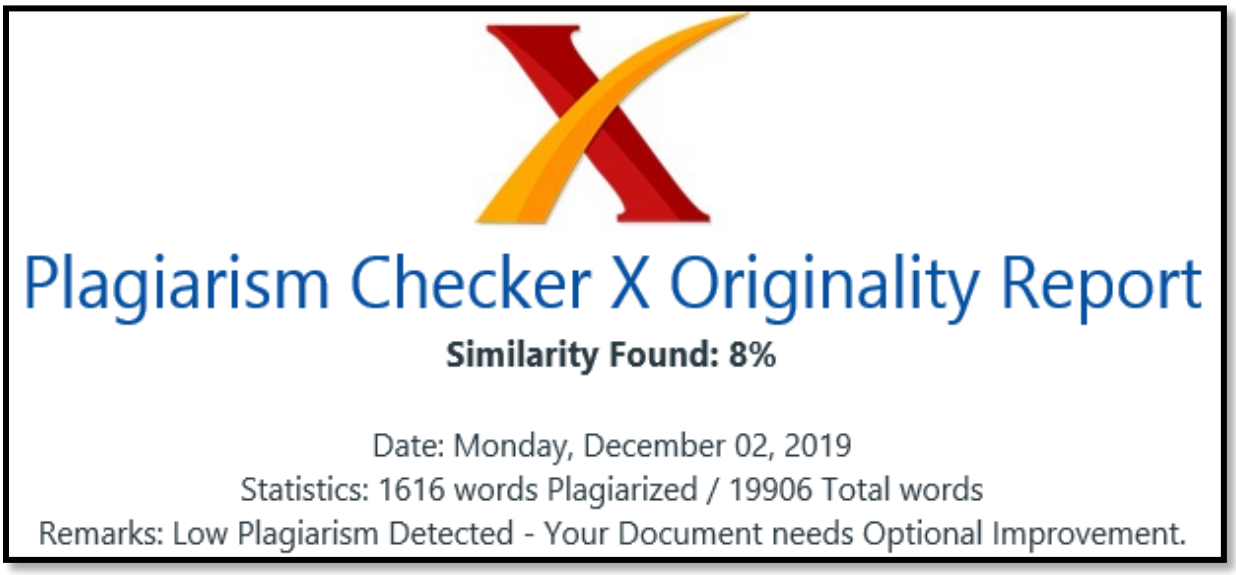

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BHARTENDU KUMAR

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Abstract

Detecting exact position of eyes and using it as input interface with the computer system along with traditional equipment's like mouse and keyboard, in a much more user friendly and natural way and reduce unresponsive interface and wrong detections in the framework. The precise detection of iris, pupil, eyes and face could along with the position of eyes the behavior could also be predicted and a much more immersive and responsive interface can be framed. The research in this area has been intensely focused on massive equipments and head gears to pin point the iris position. The main disadvantage of this line of research is that the head gears and the associated equipments are costly and uncomfortable to wear. And, in the research proposals which do not use these extensive arrangements are very less precise and unreliable. So, the proposal of this paper is to use all the advanced machine learning frameworks instead of the gears and equipment and track eyes and related motion with dependable precision. And after taking the exact position of the eyes and its behavior we will stimulate input interface, mouse and keyboard with python.

Objectives

1. Natural Human Machine Interaction with eyes, using eyes as input interface along with traditional input equipments.
2. Taking eye motion and detection input from webcam, rather than costly and inconvenient head gears and equipment.
3. Applying machine learning techniques to detect and track eyes in real time from webcam input stream
4. Input Interface API to Stimulate mouse and keyboard input from python codes, corresponding to the eye position and pupil and iris position

List of Figures

List of Tables

Table of Contents