**CAPSTONE PROJECT REPORT**

(Project Term January-May 2021)

## (Pulse Detection Using Web Cam)

Submitted by

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**Course Code: CSE445**

Under the Guidance of

**(Mr. Mamoon Rashid: 20574)**

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School of Computer Science and Engineering

**DECLARATION**

We hereby declare that the project work entitled (“Pulse Detection Using Web Cam”) is an authentic record of our own work carried out as requirements of Capstone Project for the award of B. Tech degree in Computer Science & Engineering from Lovely Professional University, Phagwara, under the guidance of Mr. Mamoon Rashid, during January to May 2020. All the information furnished in this capstone project report is based on our own intensive work and is genuine.

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**NOVELTY:**

Main concept of the project is to find the heart rate of a person using webcam.

**FEASIBILITY**:

For developing this project there should be deep knowledge of openCV, python and it’s libraries.

**SPECIFIC REQUIREMENTS**

* For getting Heartbeat of a person, we have to let him/her face a web camera for at least 15-30 seconds.
* There should be minimum noise and person should be free from gasping.

**Pulse Detection using Web Cam.**

* This project mainly focuses on the image of a person, so we are using open cv which is python library.
* OpenCV is also a software which is now used in traffic control, self-driving cars etc.,
* Heart rate of a person is shown in the console in digital signal which are normally converted from mechanical signals.

**Features**

* We can see heart rate in BPM
* Accuracy depends on the many features like clarity of the image, image noise etc.,
* Cost efficient.
* Time efficient.
* No prior knowledge required to use this application

**Working:**

Person should face camera for few seconds, a green rectangular area is formed on the forehead of a person in the image. Here OpenCV observes the movement of skin which is formed by movement of blood vessels under the skin, it then fetches the mechanical waves and cover them into digitals waves and displays the results in the form of BPM on the user console.