EYE CONTROLLED VIRTUAL KEYBOARD USING CONVOLUTIONAL NEURAL NETWORKS

***Abstract*—**Digitalization is the core of today's long distance communication, is a daily need of the current generation and is used extensively in day to day life. Due to this, this virtue should be available to all people, including differently-abled people. The purpose of this study is to provide a system for the differently-abled to use text feature, which essentially is building an eyecontrolled virtual keyboard. Using Dlib, openCV and CNNs, the study inspected the eye movement and eye blink to select the desired key. It uses Neural Networks to predict the eye's state accurately using which the keyboard is operated. The study achieved its goal of providing a system for the differently-abled to text by monitoring the eye movement. The study provides a method to be used by target audience with great efficiency. This study definitely offers as a milestone for future advancements and similar studies and research.

Index Terms—eye-controlled, Convolutional neural network, OpenCV, Dlib