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(57) Abstract :
 One of the basic and most effective methods of communication among human beings is verbal communication. However, a large number of people across the globe are affected by oropharyngeal cancer every year leading to deficiencies in speaking and linguistics ability. Apart from cancer, there are a number of clinical conditions that may lead to voice disorders which include, vocal fold polyps, vocal fold paralysis, keratosis, vocal fold nodules, adductor spasmodic dysphonia and many more. Proposed is an Intelligent Wearable Neck Patch to Assist Vocally Impaired People to Speak. Capacitive Sound Sensors which work by applying bias voltage to the load plates. Vibration in neck muscles indicate the difference in capacitance between movable and fixed plates. Changes in capacitance is converted to voltage variation by transforming vibration of neck muscles to signals sensed by capacitance sensing circuit. Piezoelectric sound sensor works under the principle of piezoelectric effect to generate electrical charge by applying mechanical stress. Electromagnetic sound sensors which comprise of a diaphragm, coil and magnet to detect the vibrations of vocal cord. Convolutional Neural Networks consisting of input layers, convolution layers, fully connected layers and output layers is used to train the test data.

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