List of projects demonstrated by our students to aid the disabled

Sl. No	Dept.	Academic year	Title of the project	Brief description of the project
1	MECH	2018 - 19	Design and Fabrication of Smart wheelchair	The wheel chair will have mobility with the movement of patient's head movement
2		2019 - 20	Design and development of hydraulically actuated autonomous nurse	This would help to lift the bedridden patients from the bed with least help from the nurse
3	ISE	2018-19	Cognitive IoT System for Visually impaired	The project demonstrated a cost effective system that is designed and implemented by leveraging IoT, Machine Learning and Embedded Technologies. The system is trained using Tensor Flow framework, a camera is connected to the system is used to capture the image and the speaker is used to spell out the name of the object. **Scope and objectives of the present work:** The present work increases the awareness of the explored environment that the visually impaired person operates in and it interacts with the person by means of audio messages. It is a cost-effective solution. The main objectives of this proposed work are to design a Cognitive IoT System that helps visually impaired people for object recognition in the society and implement a cost-effective yet powerful system using Embedded and Machine Learning Techniques.
4	ECE	2018-19	“Walk mate"- the smart stick for the visually impaired	Visually impaired people find difficulties detecting obstacles in front of them, during walking in the street, which makes it dangerous. WalkMate comes as a proposed solution to enable them to identify the world around. In this project we propose a solution, represented in a smart stick two pairs of ultrasonic sensors to detect any other obstacles in front of the user, within a

				range of four meters. Speech warning messages and the vibration motor are activated when any obstacle is detected. This proposed system uses a microcontroller embedded system, vibration motor and flash memory. The stick will be capable of detecting all obstacles in the range 0-4 meter during 39ms and gives a suitable respect message empowering blind to move twice his normal speed because she/he feels safe. WalkMate is of low cost, fast response, low power consumption and light weight.
5		2019-20	Gesture Vocaliser and Smart Automation for Deaf-Mute People	Sign language is a natural way for communication between normal and dumb people, but often they find difficulty in communicating with normal people as we don't understand their sign language. For deaf and mute people to communicate with normal people, sign language is introduced. The disadvantage of this method is that we must know the sign language to understand the conveyed message. So this project aims to facilitate individuals by means of a glove based deafmute communication interpreter system. The glove is internally equipped with accelerometer. These sensors sense the movement of hands and fingers. For every specific gesture, the accelerometer measures the orientation of hand. The process of these hand gestures is interpreted in controller. Using this device deaf-mute and a standard person can be able to communicate with each other in an affordable and convenient way. This project analyses the data from an instrumented data glove for use in recognition of signs and gestures. A system is developed for recognizing these signs and their conversion into speech.