



University of Sri Jayewardenepura

Faculty of Technology

Bachelor of Engineering Technology Honors

Marks

ETM 4272 – Machine Vision Systems

Take Home Assignment 01

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(I declare that this assignment is my own work)	<i>Dehan Welihinda</i>

List of 20 features you would expect from a computer vision product for aiding visually impaired people. (Inspired from a technology introduced by OpenAI GPT4.0)

1. Identify pedestrian crossings.
2. Guidance on cooking (Measuring cups, identify utensils and etc.) – Additionally can be integrated with the cooking manual where the user is suggested on next item to grab.
3. Human recognition – A feature where a human face is saved per user request and consent and the human walking towards can be identified for the user.
4. Shopping Guidance – User is guided through the isles and items to grab when a product list to be purchased is inputted.
5. Emergency exit detection – For emergency situations
6. Handwriting identification and reading for the user
7. Real time feedback on environments around the user
8. Guided/Autonomated Driving – User guided to drive vehicles (Similar to the technology used in Waymo taxis)
9. Medication Management – Reading prescriptions and dosages on medicines
10. Weather Adaptation Guidance – Suggest actions based on the weather around the user
11. Text Translation – Translates visible or read out texts to the user
12. Road Hazard Warnings – Identifying different hazards on the road such as potholes and other obstacles
13. Power Indication Detection – Recognize ON/OFF status of different devices and machines
14. Gesture Recognition – Hand gesture recognition of the user and humans interacting with the user
15. Currency Detection – Identification of different banknotes and the currency of it.
16. Pet and Animal Identification – Recognizing nearby pets and animals for the user
17. Tool Identification – Detect and differentiate tools like hammers and screwdrivers
18. Meal Preparation – Support on preparing a meal when the recipe is inputted.
19. Bus or Train Route Recognition – Reads and announces the displayed routes of busses and trains
20. Digital Screen Reading – Read out aloud on digital displays such as billboards, ATMs and etc.