Abstract

The purpose of developing a cost-effective smart walking stick for the visually impaired and the need increased with a steady increase in their population worldwide. The smart stick presented in this paper uses artificial intelligence along with ultrasonic sensors to help the visually disabled people to navigate through the environment independently. Image recognition, Collision detection and obstacle detection are the tasks performed on a raspberry pi having high processing power. The task of obstacle detection and obstacle avoidance makes use of ultrasonic sensors to alert the user of the obstacles appearing in his path. The smart walking stick also demonstrated the important characteristics of affordability, mobility and high performance.

References

8. A. Linn. Teaching computers to describe images as people would, April 2016. Retrieved from https://blogs.microsoft.com/ai/2016/04/14/teaching-computers-to-

**Index Terms**

- Computer Science
- Artificial Intelligence

**Keywords**

- Visually impaired
- Image Recognition
- Collision Detection
- Artificial Intelligence
- Ultrasonic Sensors
- Raspberry Pi