

# Smart Shoes: Wearable Navigation Assistant for Visually Impaired People

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**Abstract:** *Vision is one of the powerful sense in all of the senses. Visually challenged people face many problems in terms of obstacles in their mobility in the case of outdoor as well as indoor. For their daily activities, they are always reliant on others. Visually impaired people meet many accidents, they often fall off and they may get lost in some unknown areas due to failure in adapting and identifying the surrounding environment. "Smart Shoes" are designed to provide a better solution for the visually impaired to move safely and independently. It is built using "Internet of Things" technology and the shoes are embedded with various sensors, microcontrollers, buzzer, speaker and vibration motor. The shoe alerts the wearer whenever he or she walks in front of an obstacle. Also, it detects the wet floor and water bodies and gives alert about it. To increase the security and safety of the visually impaired, whenever the person falls down an alert message is sent to the parent's or caretaker's telegram bot. Smart shoes are designed to provide a safe and comfortable companion in their daily life activities. As a result, a complete adaptive equipment is being advanced to improve the standard and comfort of life of the visually impaired.*

**Keywords:** Smart Shoes, visually impaired, obstacle detection and Internet of Things (IoT)

## REFERENCES

- [1]. "Smart shoes: assistive shoes for the visually impaired people" system proposed by Mr. Jitendra Singh, Ajay Yadav, Ajay Prajapat, Adhiraj Singh and Hemant Chohan (IJSRD/Vol. 5/Issue 02/2017/389).
- [2]. "Smart shoes: walking towards a better future" system proposed by Miss. Rutuja Anil Shinde, Dr. B. A. T. University, Dr. S. L. Nalbalwar and Dr. Sachin Singh (ISSN: 2278-0181/IJERTV8IS070167 Vol. 8 Issue 07, July-2019).
- [3]. "Low-cost ultrasonic-based shoe for visually impaired people" system proposed by Shyamal Mandal and Adarsha B. Chandran (DOI: <https://doi.org/10.1016/B978-0-12-817913-0.00012-2>).
- [4]. "Sneak-sight shoes for the visually challenged" by B. Uma Maheshwari, Jaiyah Shruthiy T, Sri Vidhya S and Subashini P R.
- [5]. "Smart shoes for visually impaired using IOT" by Manali Tayade, Serena Matla, Raghuveer Deepala, Yash Dekate and Harsh Kadam (e-ISSN: 2395-0056p-ISSN: 2395-0072).
- [6]. "Smart shoes for blind using internet of things: a review" by Pradeepa R (2021 IJCRT | Vol 9, Issue 2, February 2021 | ISSN: 2320-2882).
- [7]. "Smart shoes – an aid to blind people" by Divya V Chandran, Aswathy N, Parvathy S Kumar, Neelima Sunil, Nikhil Krishnan and Parvathy Krishnan (DOI 10.17148/IJARCCCE.2020.91211).
- [8]. "IoT based smart shoe for the blind" by Teja Chava, A. Tarak Srinivas, A. Lohith Sai and Venubabu Rachapudi.
- [9]. "Design and implementation of smart shoes for blind and visually impaired people for more secure movements" by Roy Abi Zeid Daou, Jeffrey Chehade, Georgio Abou Haydar, Ali Hayek, Josef Boercsoek and Jose Javier Serrano Olmedo (DOI: 10.1109/ICM50269.2020.9331779).
- [10]. "Integrated smart shoe for blind people" by Kumara B A, Mr. Heggade Mallikarjuna, Ms. Shilpa G and Ms. Chaitra G (PROJECT REFERENCE NO.: 39S\_BE\_0939).