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(57) Abstract :

ARTIFICIAL INTELLIGENT AND CLOUD BASED CONVERSATIONAL ROBOT FOR BLIND PEOPLE ASSISTANCE Abstract The primary functions of human life involve proficient navigation and comprehensive perception in both known and unfamiliar environments. The visual sense plays a crucial role in enabling humans to avoid various hazards and successfully navigate both indoor and outdoor surroundings. These activities pose significant challenges for those with visual impairments across many settings. Numerous assistive gadgets have been developed through technological advancements, such as braille compasses and white canes, which aid individuals with visual impairments in navigating their surroundings. A novel navigation system utilizing vision and cloud-based technology has been developed to assist individuals with visual impairments or blindness. The objective of our study was twofold: to effectively guide individuals and to accurately sense the surrounding world with a level of detail comparable to that of an average individual. The proposed system incorporates ultrasonic sensors for obstacle detection and a stereo camera for capturing movies to perceive the surroundings through the utilization of deep learning techniques. The facial recognition methodology successfully detected and identified familiar individuals who were present in the vicinity. Individuals with visual impairments engaged with the comprehensive system by means of a speech recognition module, whereby all pertinent data was afterwards stored within a cloud-based infrastructure. Web and Android applications have been developed with the purpose of monitoring and tracking individuals with visual impairments, enabling their guardians to ensure their safety during visits and promptly respond to any emergency situations. The testing findings demonstrated that the proposed system has the capability to offer a greater amount of information and facilitate user-friendly interaction.

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