Glasses for the Blind Using Finger Tracking and OCR

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These glasses will be more innovative and useful than smartphones to the visually impaired. 250 million blind people around the world are facing more difficulties due to COVID-19, and the visually impaired face many difficulties due to social infrastructure and policies that do not consider them, such as kiosks. In addition, the technologies of the 4th industrial revolution are not considering about the visually impaired. Existing glasses for the visually impaired only provide information but do not tell the location of the information, so the blind cannot take action to solve the problem. So I invented innovative eyeglasses for the blind. These glasses are wearable devices in the form of a cap + glasses. These glasses allow the visually impaired to know the location of objects and texts. Based on the index finger, the position of texts or objects is notified by voice through earphones. Through this process, the visually impaired will be able to do things that were previously impossible. Also, the possibilities are endless with text labeling. For example, you can attach a text labeling sticker to know the position of the handle of a hot pot, or you can distinguish a debit card from a credit card by attaching a text labeling sticker. For real-time process, Finger Tracking, OCR, and Object Detection all utilized SSD-based models. Through these glasses, blind people are freed from social infrastructure and policies, and at the same time, they are able to lead independent lives. These glasses are the first in the world to allow blind people to take action to solve problems. These glasses have opened a new path, and the growth potential and future value are enormous, and I am confident that they can change the lives of the visually impaired.

Awards Won:

Fourth Award of $500