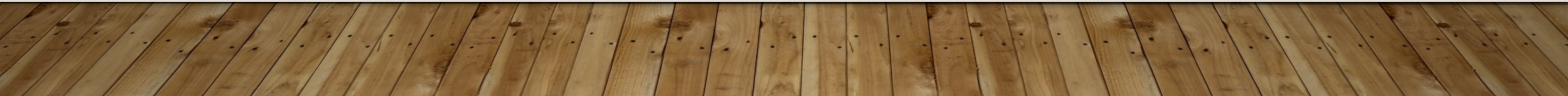# VR And AR For DEAFBLIND

Akash Bandarupalli

THE 2ND

INTERNATIONAL
YOUNG RESEARCHERS CONFERENCE
ON DEAFBLINDNESS

VIRTUAL -REALITY (VR)

- Virtual Reality (VR) is the use of computer technology to create a simulated environment.

- In simple words experiencing things through our computers that don't really exist..

- virtual reality is primarily experienced through two of the five senses: sight and sound.

TYPES OF VR

Smartphone Based HMD

Computer Based HMD with specialized controllers

USES IN THE FIELD OF DEAFBLIND

- VR can be used for the best simulation for normal people how deafblind can feel
- VR can be used to improvise the research ability for the researchers who are working on specific work case

AUGMENTED REALITY (AR)

- **Augmented reality** (**AR**) is an interactive experience of a real-world environment with digitally generated information.

- The overlaid sensory information can be constructive (i.e. additive to the natural environment), or destructive (i.e. masking of the natural environment).

- This experience is seamlessly interwoven with the physical world such that it is perceived as an immersive aspect of the real environment.

TYPES OF AR DISPLAYS

- Projection based

- HUD/ Smart Glasses

- Mobile Phone Based
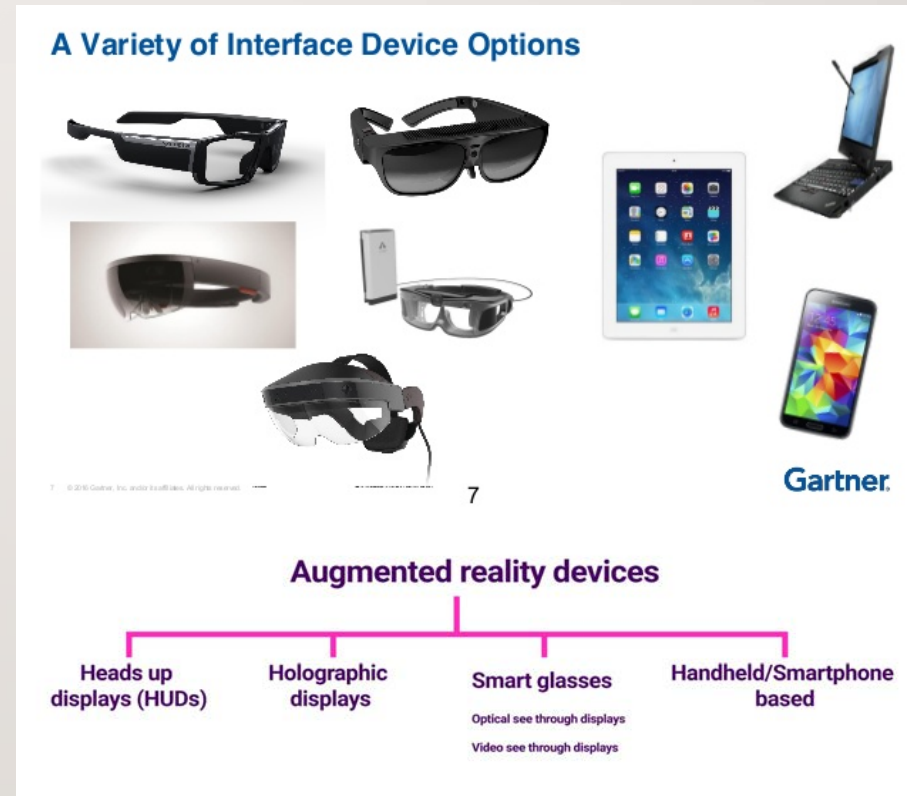
AI+AR HELPING DEAFBLIND!!

AI and AR can empower people with disabilities with tools that support independence and productivity, as technology rapidly changes the way we live, learn, and work.

- AI + AR are capable of hearing, seeing, and reasoning with increasing accuracy. By making software and devices smarter, and keeping them affordable, people gain independence to perform daily tasks and personalize tools for their unique needs.

- Real time Text to speech and Speech to Text can be done by AI to help the user to make his daily life smooth and simple

- AI+AR-powered chatbot to help them prepare for job interviews.

- Making people aware of their surroundings

- VR job interview training for people with Autism

- Using AI and AR we can translate sign language to natural language without any help of humans

- Using those devices Deaf and Blind can conveniently talk

- AI and AR devices can sense the surroundings and make tactile vibrations so that deafblind can easily understand there is an obstacle

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Helping to understand surroundings and converting into vibrations

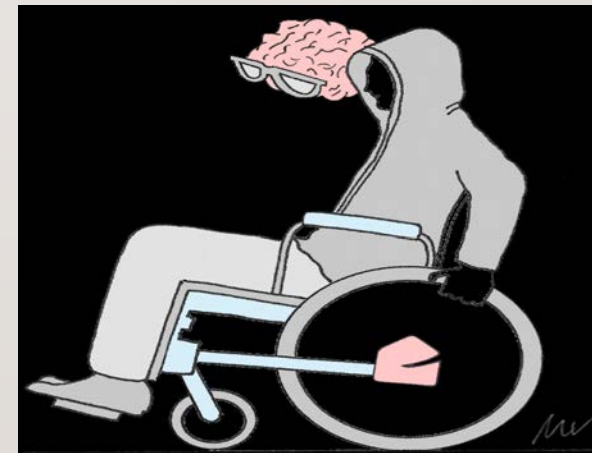Real-time speech to text and extended speech pattern

VR interview for Autism

AR app using AI that narrates world around you

Blind using AI to have their daily life

CHALLENGES

- Programming AI is very Difficult

- A lot of Math is involved in coding AI

- AI required of AR should be fast and should work almost with no Latency

- **Lack of data on Deafblind**

- **Lack of multi disciplinary professionals**

REFERENCES

- All pictures are taken from google images

- All the data and definitions are my own

THANK YOU FOR THE ATTENTION

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