

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
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HEAR THE SKY - PIONEERING SPACE EDUCATION FOR THE HEARING-IMPAIRED

Abstract

In the realm of educational inclusivity, the AISA initiative stands as a technological marvel, employing state-of-the-art methodologies to empower the hearing-impaired. With over 466 million individuals globally facing debilitating hearing loss, AISA, or Artificial Intelligence Sign Language Assistance, emerges as a beacon of hope. By leveraging computer vision algorithms such as Convolutional Neural Networks (CNNs), AISA introduces groundbreaking solutions like Sign Language translation, Text-to-Speech, and Speech-to-Text functionalities, effectively transforming the lives of deaf individuals.

Amidst serving a diverse community of disabled users, AISA recognized a shared passion for the cosmos among its audience. This revelation propelled the creation of "Hear The Sky," a visionary program under the AISA umbrella. Dedicated to educational justice, "Hear The Sky" seeks to democratize space education for the hearing-impaired, addressing the needs of the 466 million and the projected 2.5 billion individuals with hearing loss by 2050.

"Hear The Sky" redefines educational paradigms through innovative storytelling, fusing text with advanced computer vision algorithms, including CNNs. This mobile application delivers an immersive experience, allowing users to embark on celestial journeys, explore space narratives, and engage in a captivating observatory experience. As the program evolves, it envisions the integration of Natural Language Processing (NLP) techniques, including Transformers and Large Language Models (LLMs), enriching the learning experience for users.

The trajectory of "Hear The Sky" extends beyond conventional bounds. Future endeavors involve the assimilation of Virtual Reality (VR) and Augmented Reality (AR) technologies. The ultimate aspiration is to transition the application to Extended Reality (XR) devices like Apple Vision Pro, creating an unparalleled, realistic experience for individuals with disabilities. This visionary pursuit aligns with the core belief that education, especially the exploration of space, is not a privilege but an inalienable right. As "Hear The Sky" propels towards this future landscape, it envisions a world where the cosmos unfolds as an accessible, immersive adventure for all.