Team

SPOTLIGHT

Featured

Visage Technologies

May 2024

Article:
Cannon School Robotics Team: Empowering the visually impaired with face analysis technology

CANNON SCHOOL

Cannon School Robotics - The Brainy YAKS!

In an era where technology bridges gaps and creates opportunities, we have proudly collaborated with the Brainy Yaks robotics team from Cannon School, North Carolina, to create a transformative solution for visually impaired individuals.

This case study explores how our cutting-edge face analysis technology was pivotal in developing a groundbreaking application that enhances theatrical and daily communication for those without sight.

Cannon School, a beacon of educational excellence since 1969, has long been committed to fostering innovation and creativity among its students. And the Brainy Yaks, a robotics team at Cannon School, embody this spirit.

Comprising ambitious 6-10th graders, they regularly participate in and are part of the renowned First Lego League (FLL) championship. There, they have the task of making a robot and an innovation project every year.

Celebrating 15 years of innovative thinking, the Brainy Yaks have consistently demonstrated their ability to integrate technology and creativity to solve real-world problems.

The quest for expression: Bridging the gap in theatrical arts for the blind
This year's FLL challenge, themed 'Masterpiece,' required teams to merge art and technology to solve an identified problem.

The Brainy Yaks, after insightful discussions with a representative from a school for the visually impaired, identified a significant challenge: blind students struggled in theatrical performances due to their inability to perceive and control their facial expressions.

Credit: Visage Technologies, Cannon School Robotics Team: Empowering the visually impaired with face analysis technology

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Illuminating expressions with advanced Face Analysis Visage Technologies stepped in with advanced face analysis software, which became the cornerstone of the solution.

The face analysis software helped them fully implement their idea by making it possible for ExpressED, their final product, to receive and analyze expressions along with providing feedback.

While our technology primarily provided visual feedback, the Brainy Yaks further adapted it to include audible feedback, tailor-made for the visually impaired.

This adaptation transformed our technology into a more inclusive tool, enabling ExpressED to analyze facial expressions and then provide real-time auditory feedback to the visually impaired community.

ExpressED: A new horizon in empathy and communication

As previously mentioned, the culmination of this collaboration is ExpressED, a website that utilizes FaceAnalysis' emotion recognition software. It uses the software to teach facial expressions to visually impaired individuals aspiring to perform in theater. And it does so through three main steps:

1. Choose the emotion you'd like to learn about

2. Get audio explanations on how to position certain parts of your face

3. Practice and master the emotions using a live face analysis demo

Beyond the stage, ExpressED has the potential to aid in professional presentations, everyday interactions, and boosting self-confidence. With plans to expand its reach and evolve into a mobile application, ExpressED stands as a testament to the limitless possibilities when technology is harnessed for social good.

Visage Technologies, through this partnership, has not only provided a tool but has also inspired innovative thinking, proving that with the right technology, the only limit is imagination.

"We would definitely recommend this technology to others!

Visage Technologies' software was really easy to add to the code of ExpressED and very user-friendly. Before this project, we never would have imagined using facial analysis software this way and we encourage other groups to think outside the box as well!"

– Cayden,
Brainy Yaks Robotics Team

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