SMART INDIA HACKATHON 2024

SMART INDIA HACKATHON 2024

HACKERWAR 5.0

ORGANISED BY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FACULTY OF ENGINEERING AND TECHNOLOGY (ITER) SIKSHA ‘O’ ANUSANDHAN (DEEMED TO BE) UNIVERSITY, BHUBANESWAR, ODISHA

<codex>

We code. We explore

SMART INDIA HACKATHON 2024

TITLE PAGE

- **Problem Statement ID – 1716**
- **Problem Statement Title- Indian Sign Language to Text/Speech translation**
- **Theme- Miscellaneous**
- **PS Category- Software**
- **Team ID-**
- **Team Name- GLITCHERS**

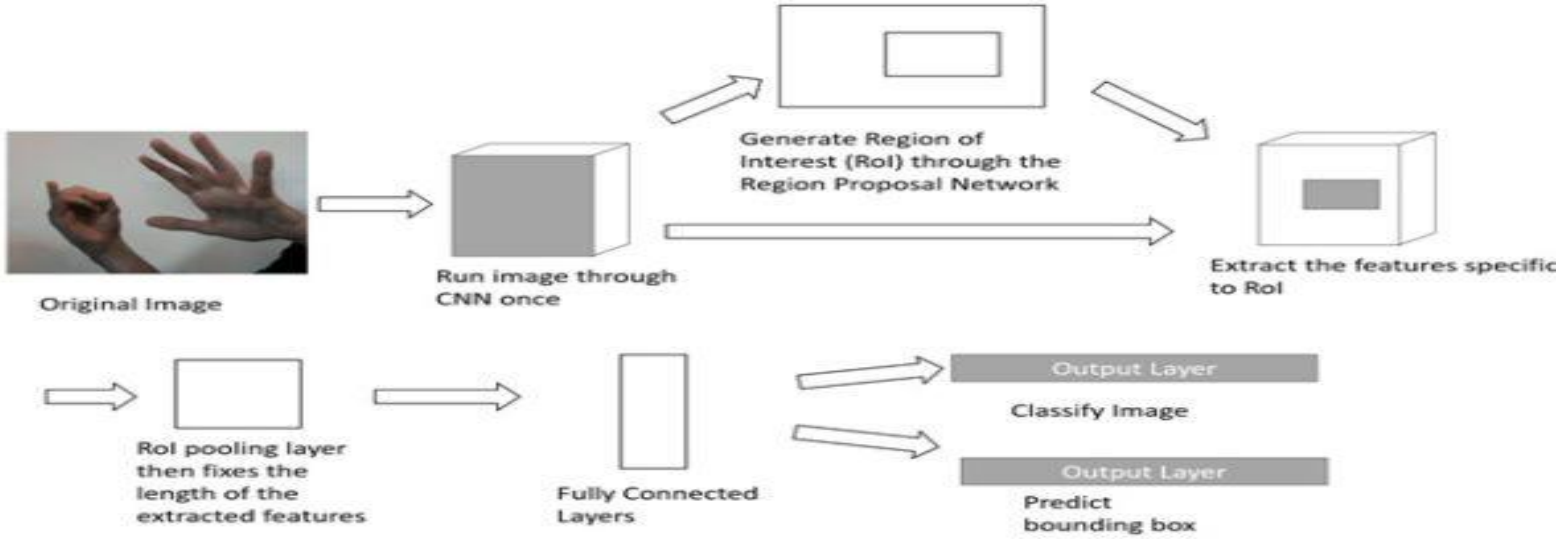
Indian Sign Language to Text/Speech translation

❖MUTE MATE

- It includes gesture recognition, text conversion, and speech synthesis, with optimizations for real-time performance. The goal is to create an inclusive tool that facilitates effective communication and integration into society.
- The system promotes inclusivity by allowing users to express themselves confidently, reducing their dependence on interpreters, and enabling them to participate more fully in society.
- This solution uniquely offers real-time, adaptive ISL translation across platforms, ensuring personalized, inclusive, and accessible communication.

TECHNICAL APPROACH

- The solution involves using computer vision and deep learning algorithms to translate Indian Sign Language (ISL) into text and speech in real-time, enhancing communication for the deaf and mute community.



FEASIBILITY AND VIABILITY

- The feasibility of translating Indian Sign Language (ISL) to text/speech is promising due to advancements in computer vision and deep learning. With sufficient training data and robust algorithms, accurate gesture recognition and classification are achievable.
- Challenges include handling regional sign language variations, ensuring real-time processing, and achieving high accuracy in diverse environments.
- Despite these challenges, with the right resources, data, and computational power, the implementation is technically viable and could significantly benefit the deaf and mute community

IMPACT AND BENEFITS

- The Indian Sign Language to Text/Speech translation feature can significantly enhance communication for the deaf and mute community, enabling seamless interaction with the hearing population.

- This technology also promotes inclusivity in educational and professional environments, bridging communication gaps and fostering greater understanding.

RESEARCH AND REFERENCES

Github Links

https://github.com/Sooryak12/Indian-Sign-Language-Recognition

Youtube Links

https://www.youtube.com/watch?v=ZTSRZt04JkY

https://youtu.be/MJCSjXepaAM?si=mygmwt9EF3HzI04C

https://youtu.be/pDXdlXlaCco?si=01y_Vuqr20GEfejn