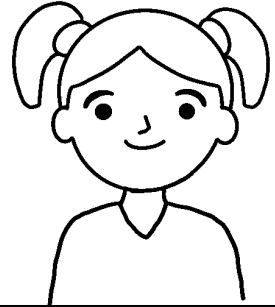


**Open source AI hackathon lablab.ai**

**8 May 2023**



# American Sign Language Recognition System



lab  
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ai

## Team **Members:**

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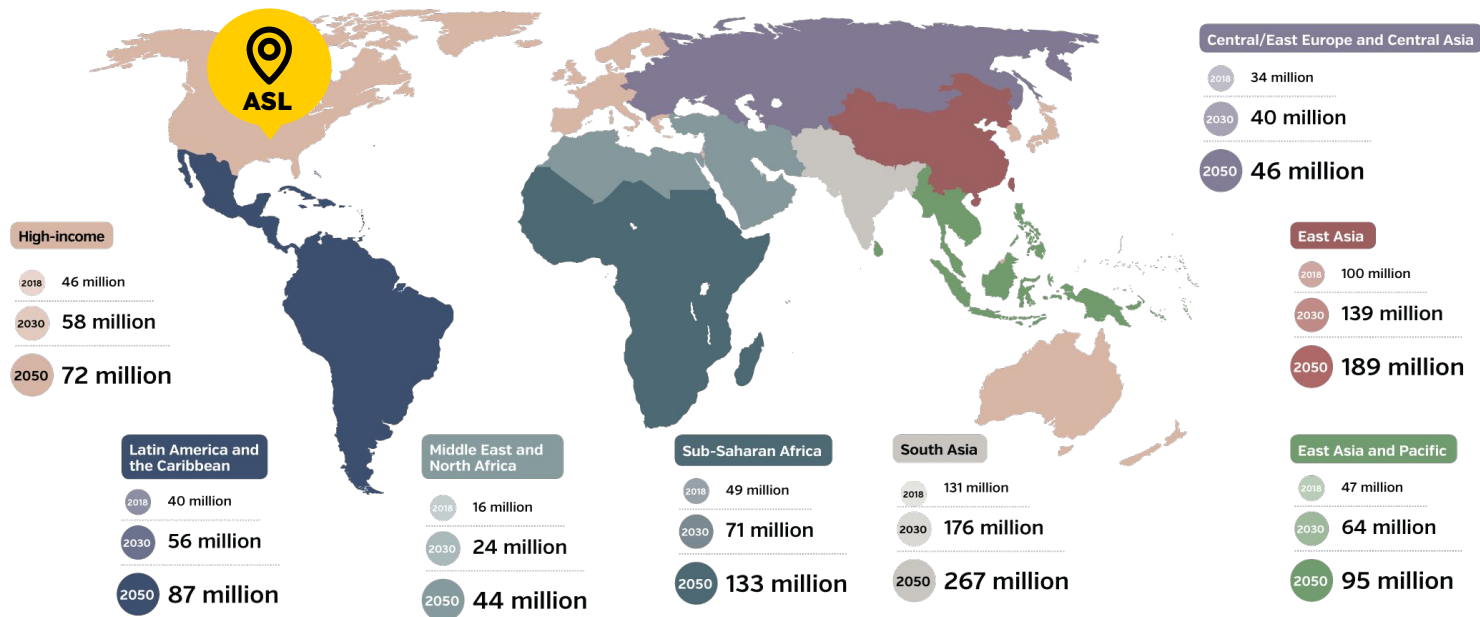
## **Presentation Outline**

- .1 Background and Significance
- .2 Approach
- .3 Experimental Results and Comparison
- .4 Conclusion and Recommendations
- .5 Competitors
- .6 References



## American Sign Language (ASL)





Based on Global Burden of Disease regions  
 \*The current projections are based on the assumption that age-, gender- and region-specific prevalence of disabling hearing loss does not vary over time.

## Projected number of people with hearing loss in different world regions until 2050





## Solution

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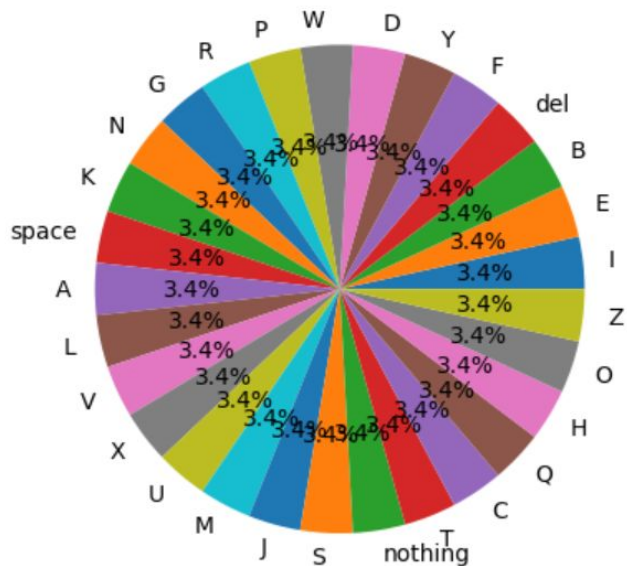
A technology that will give the opportunity for people to **communicate easily in their own language** between one and other with more privacy and easier access.

Translate not only to understand what someone is saying but to understand what they are expressing thanks to the **emotion recognition**.



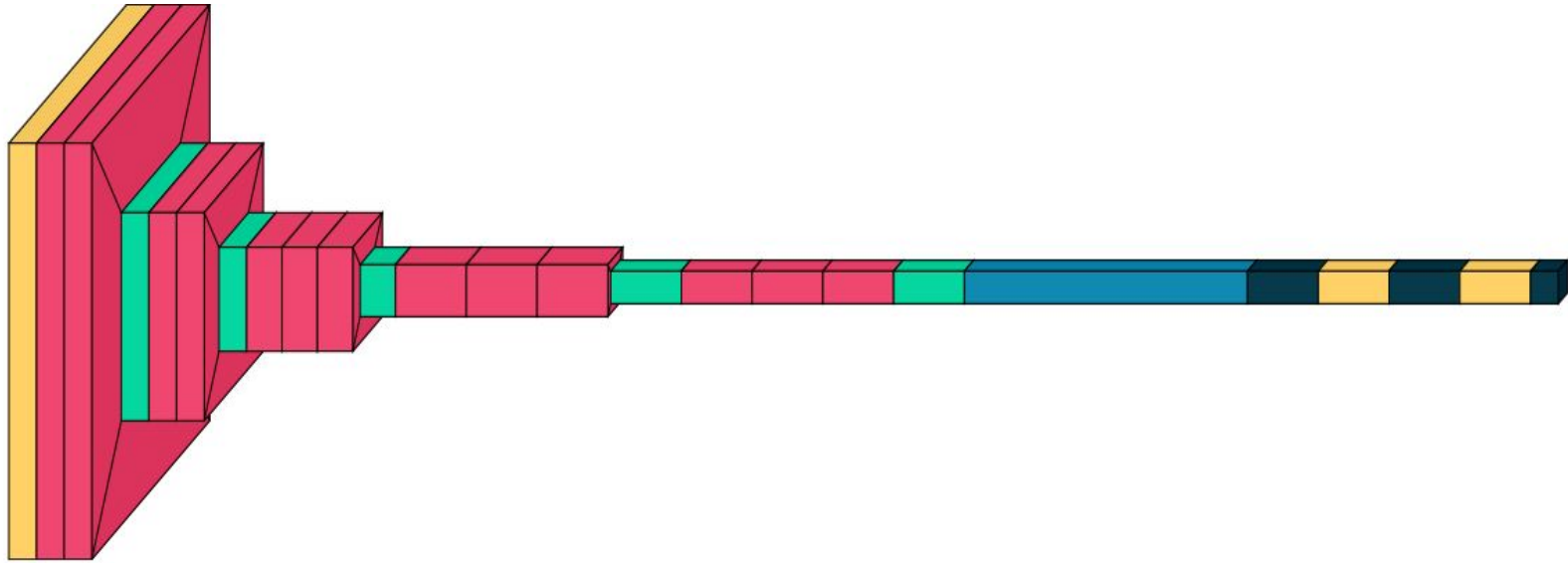
# Dataset

## Training Dataset



## Testing Dataset





InputLayer Conv2D MaxPooling2D Flatten Dense Dropout

# Convolutional Neural NetworkArchitecture





## Results

A-Accuracy

T-Fit Time

F-F1 Score

Z-ZeroOneLoss



# Here insert confusion matrix image

**CNN: ..%**

Accuracy!





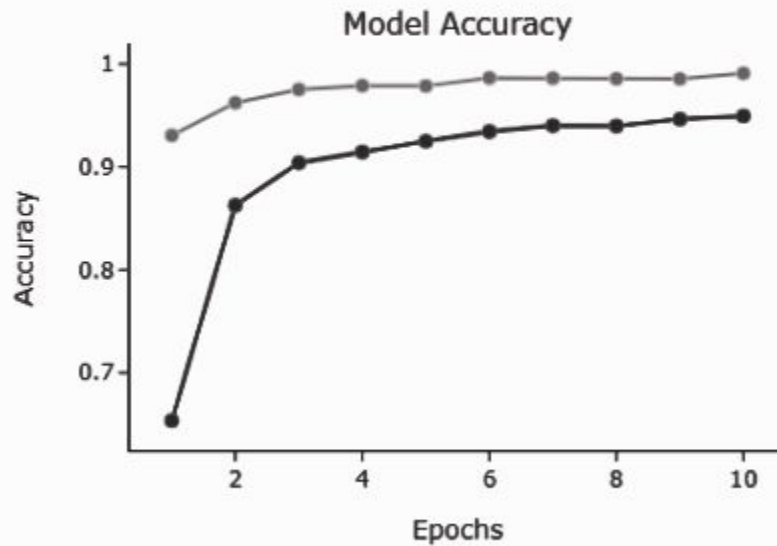
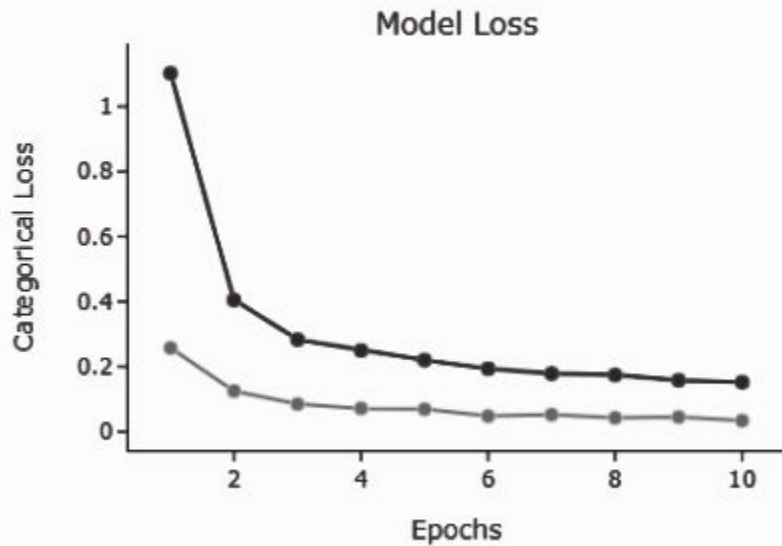
# Performance Comparison

Reference	Gestures	Model	Accuracy
[3]			
[4]			
Proposed work	Alphabets	CNN	



# Performance Comparison

Training Loss and Metrics





## Conclusion and Future Recommendations

### Conclusion

- Even though this technology is currently being developed by different teams, we only have one competitor that is also introducing emotion registration.

### Recommendation

- In a future it would be interesting to work on other sign languages like the BSL since this technology has not yet being studied on it.

This text can be deleted



## Our competitors



**SIGNALL**

**US**

- ASL
- Emotion recognition
- Real time translation
- No extra equipment
- Sign to text





## References

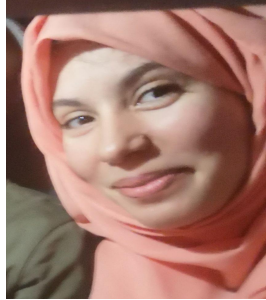
- .<sup>1</sup> World Health Organization: <https://www.who.int/>
- .<sup>2</sup> Dataset: <https://www.kaggle.com/datasets/grassknoted/asl-alphabet>
- .<sup>3</sup> SignAll: <https://www.signall.us/>



## Get to know us



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# Thank you!



You can find our repository at: <https://github.com/ego/cbq>