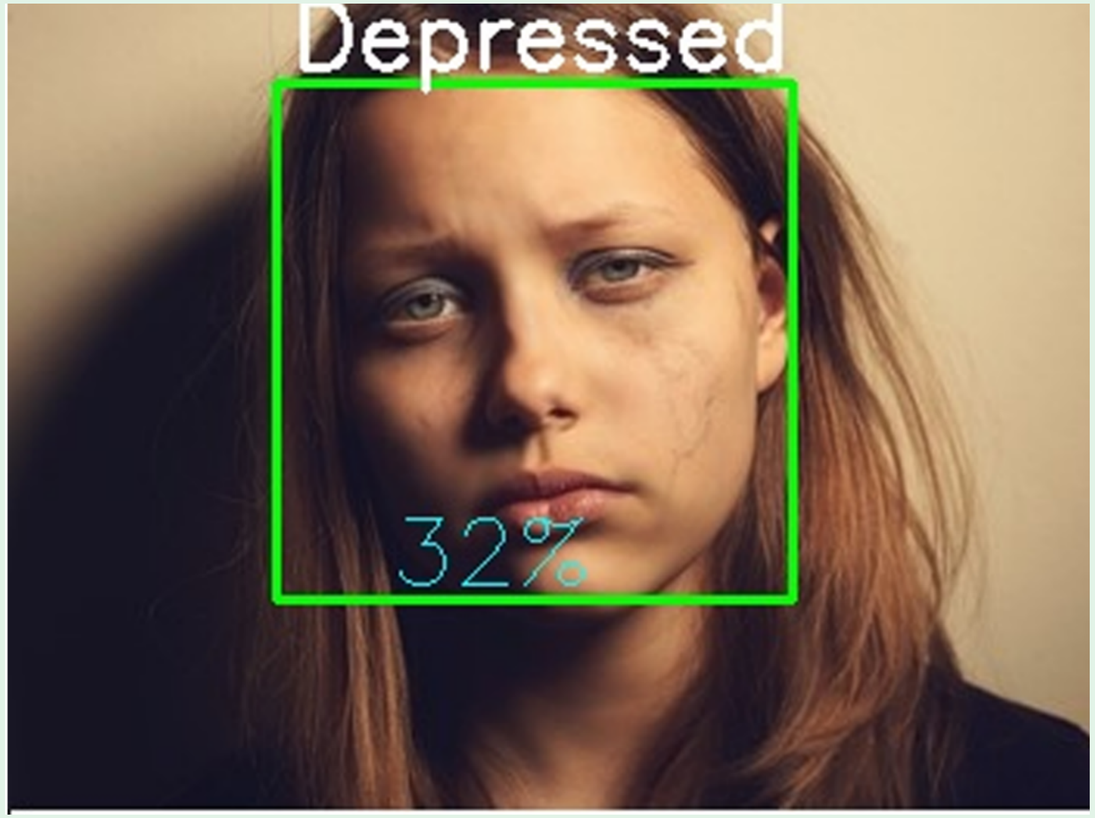
LifeVision

Implementating Neural Networks and Computer Vision to distinguish early signs of suicide



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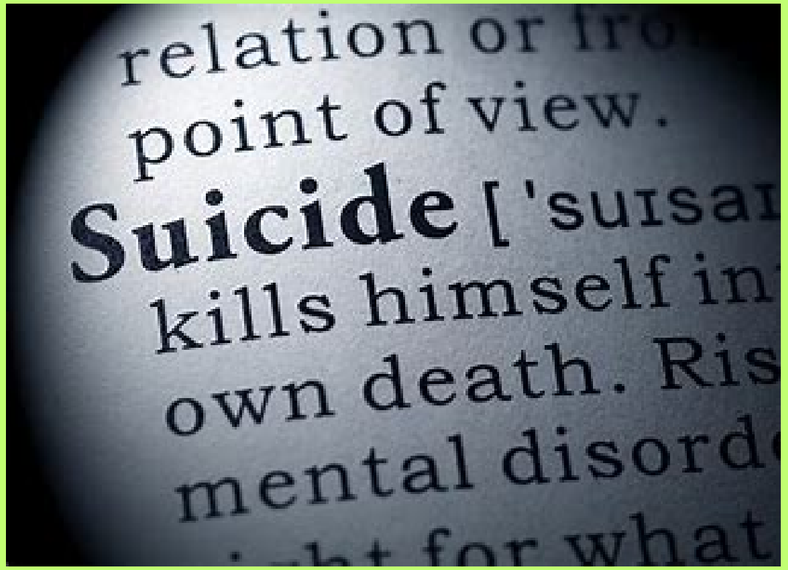
Problem

- Suicide (TW)
- *Every 11 minutes*
- Why?
- Increasing annually
- Role of Social Media



Our Approach

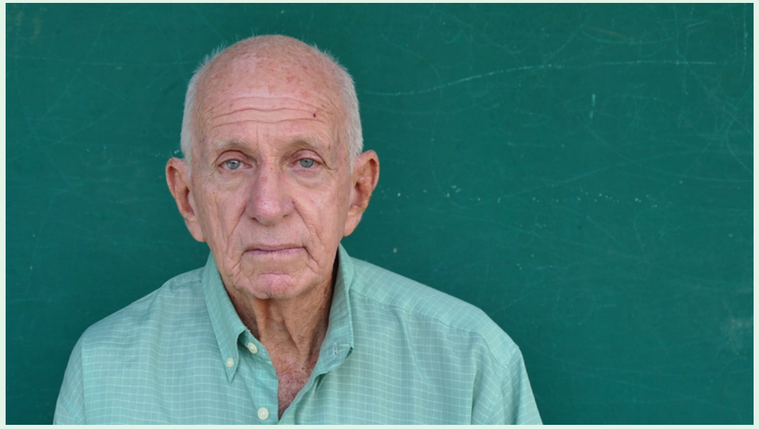
- Using Social Media
- *Instagram Posts*
- Detect Patterns
- Look for emotions + signs of emotion
- AI!

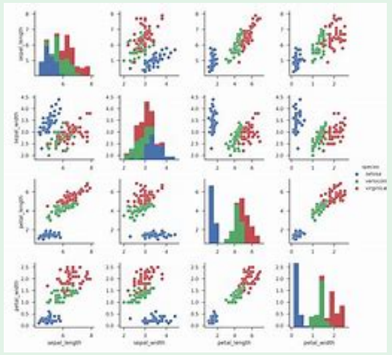
6-13%

of suicide cases can be tracked to Social Media

50,000

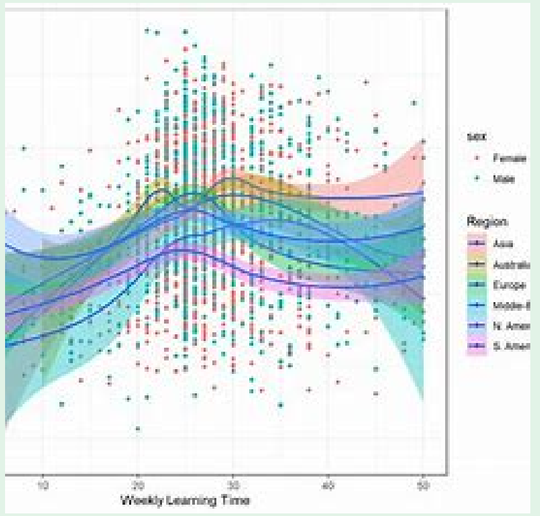
deaths annually as of 2023

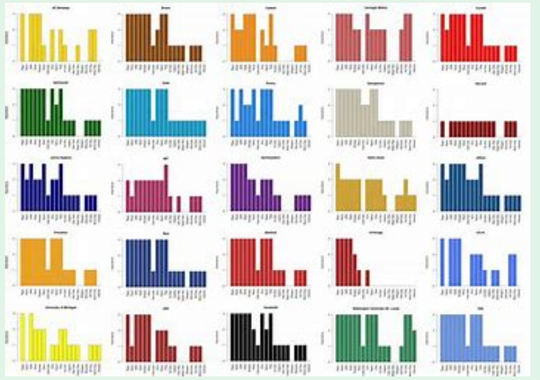




Our Approach - Image Detectio

- We created 2 datasets: one for those pictures that show early signs of suicide and the rest for those that don’t
- Next we trained our model with these datasets and curated our own testing sets to get the accuracy of our model.
- We ran multiple iterations (30 epochs on average) to really get our program to be precise!

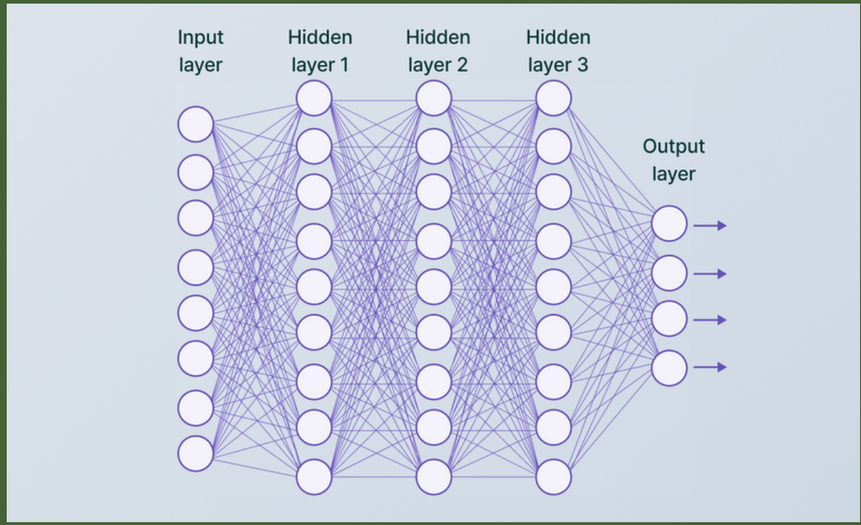




IMPLEMENTATION

- USED OPEN CV FOR FACE DETECTION
- Trained a Convolutional Neural Network using Keras API
  - Deep Learning: PROXIMITY
  - SPECIALTY IN FILTERING IMAGES
- Implemented Matplotlib
  - Accuracy!
  - Graph!

Keras



matplotlib

RESULTS & Improvements

- **96% accuracy over a variety of test**
- Demo: https://colab.research.google.com/drive/1p4InixY_iGtfEvr9K9KNzF5EBNMwXW6R?usp=sharing
- Using large data for better machine learning and efficiency.
- Expanding factors that lead to suicide through Social Media(songs, captions, comments, notes).
- Noticing trends in social media posts rather than relying on specificity.

Thank you for your time and consideration!