GRADUATE CERTIFICATE IN INTELLIGENT REASONING SYSTEMS

# SINGAPORE COMMUNITY HELP
# SOCIAL NETWORK

## PROJECT PROPOSAL PRESENTATION

SIVA KRISHNA THOTA

# About The Project

Community help is a social network website based on Singapore to connect group of people and share useful information like other social network people can post tweets, likes and share text, images & videos through this website. Unlike other social networks, there is special feature which focus more on community interaction to help people and news sharing.

**Features :**

- User is allowed to find near by shops/food courts in and around the community and can also explore on more offers.
- Allow users to find friends in near by communities.
- Merchants will receive the notifications if a user request for particular item from near by communities
- Seller/Buyer can post and get the news or offers from near by community.
- Based on history and interest user will get notifications on mobile app by tracking user location.
- Similar like whatsup groups can be created in this application.

# Business problem statement

## Problem statement # 1

A specific popular form of online harassment is the use of abusive language. One abusive or toxic statement is being sent every 30 seconds across the globe. The use of abusive language on social media contributes to mental or emotional stress, with one in ten people developing such issues .These abusive Tweets and comments detection and deletion in social media is more important.

## Problem statement # 2

Because human brains reply quickly to pictures and color in contrast to other types of information, an image is an almost invincible draw on social media. Of course, to get the concentration you want, you must share images that matter to your target audience. Although this may lead to mass data abuse images need to be detection and deletion in social media is more evitable.

# Technical Problem Statement

Offensive Text and Image is pervasive in social media. Individuals frequently take advantage of the perceived anonymity of computer-mediated communication, using this to engage in behavior that many of them would not consider in real life. Online communities, social media platforms, and technology companies have been investing heavily in ways to cope with offensive language in the form of text or images to prevent abusive behavior in social media.

## Problem statement # 1

### Binary Category Classification

**The goal of this project is to improve abusive language detection with a focus on implicit abuse, to develop model using NLP techniques to accurately detect Abusive & and Non-Abusive language.**

**Non-Abusive Language**
**Abusive Text Language**

## Problem statement # 2

### Image Classification

**This goal of the business use case derives to develop a model that uses Computer Vision techniques to accurately detect Abusive & and Non-Abusive Images.**

**Safe Image**
**Sexy Image**
**Nude Image**

# Dataset - Binary Category Classification

- Process the train data carefully as the data has emojis, English texts, some symbols, links etc. Also, note that the language detected often is not correct so don't rely blindly on it.
- Features like detected language of the text, total likes, total reports and views along with text are also provided. These features were not included by me during the training process.
- Cleaned the data(remove emojis, punctuations etc.)
- Trim the data acc to text lengths.

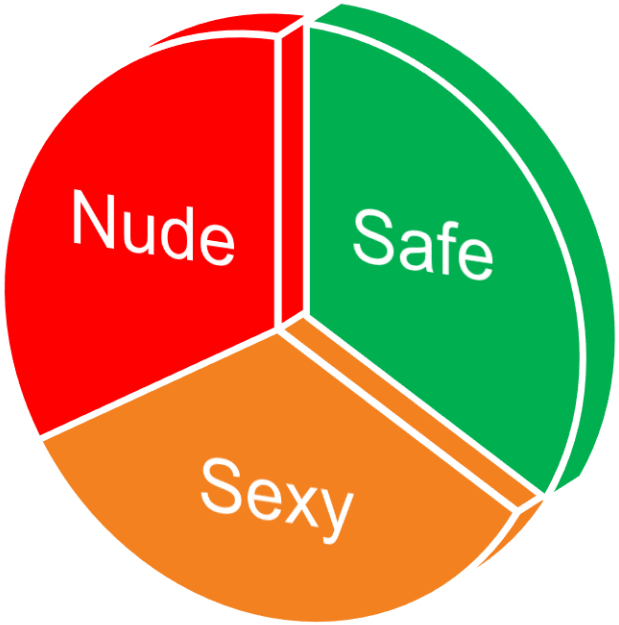
**Below is the data set count from internet**

| Category | Count |
|---|---|
| Abuse | 48602 |
| Non Abuse | 363235 |


Class imbalance is a common problem in machine learning that occurs when the distribution of examples within a dataset is skewed or biased. This can lead to a bias in the trained model, which can negatively impact its performance

# About Dataset - Image Classification

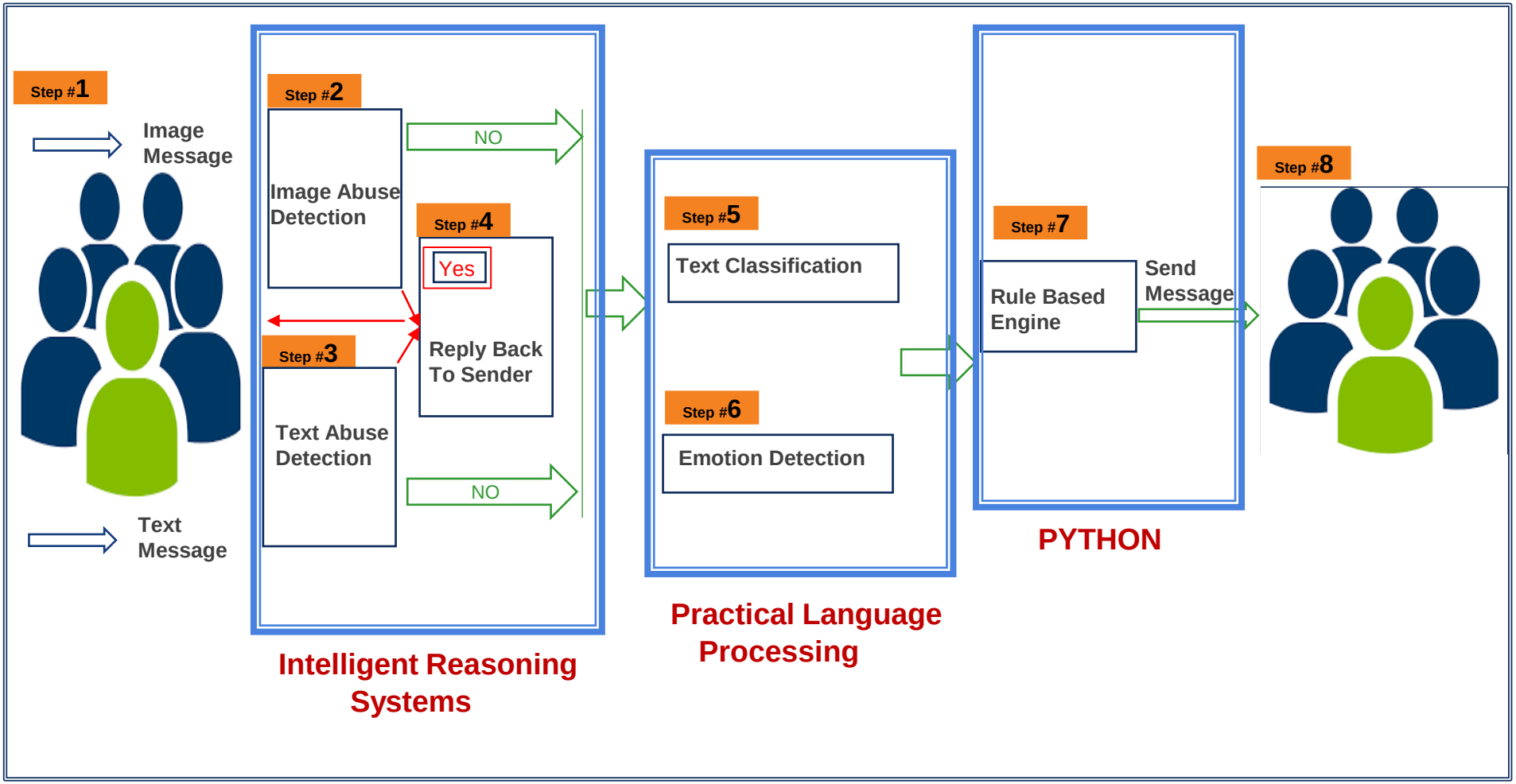
we need work to prevent the spread of illegal child sexual abuse material (referred to as CSAM). Child safety organizations and governments rightly expect — and in many cases require — us to take action to remove it from our systems. Which is why, when we find CSAM on our platforms, we remove it, report it and often take the step to suspend the account.



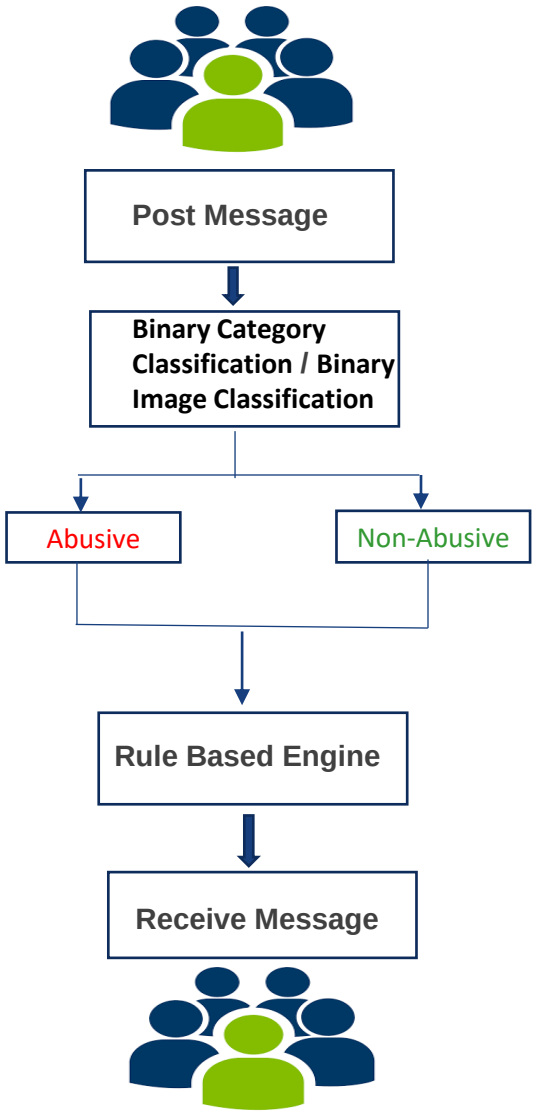

| Category | Count |
|---|---|
| Safe Image | 38411 |
| Sexy Image | 38005 |
| Nude Image | 38000 |

**Above is the data set count from internet**

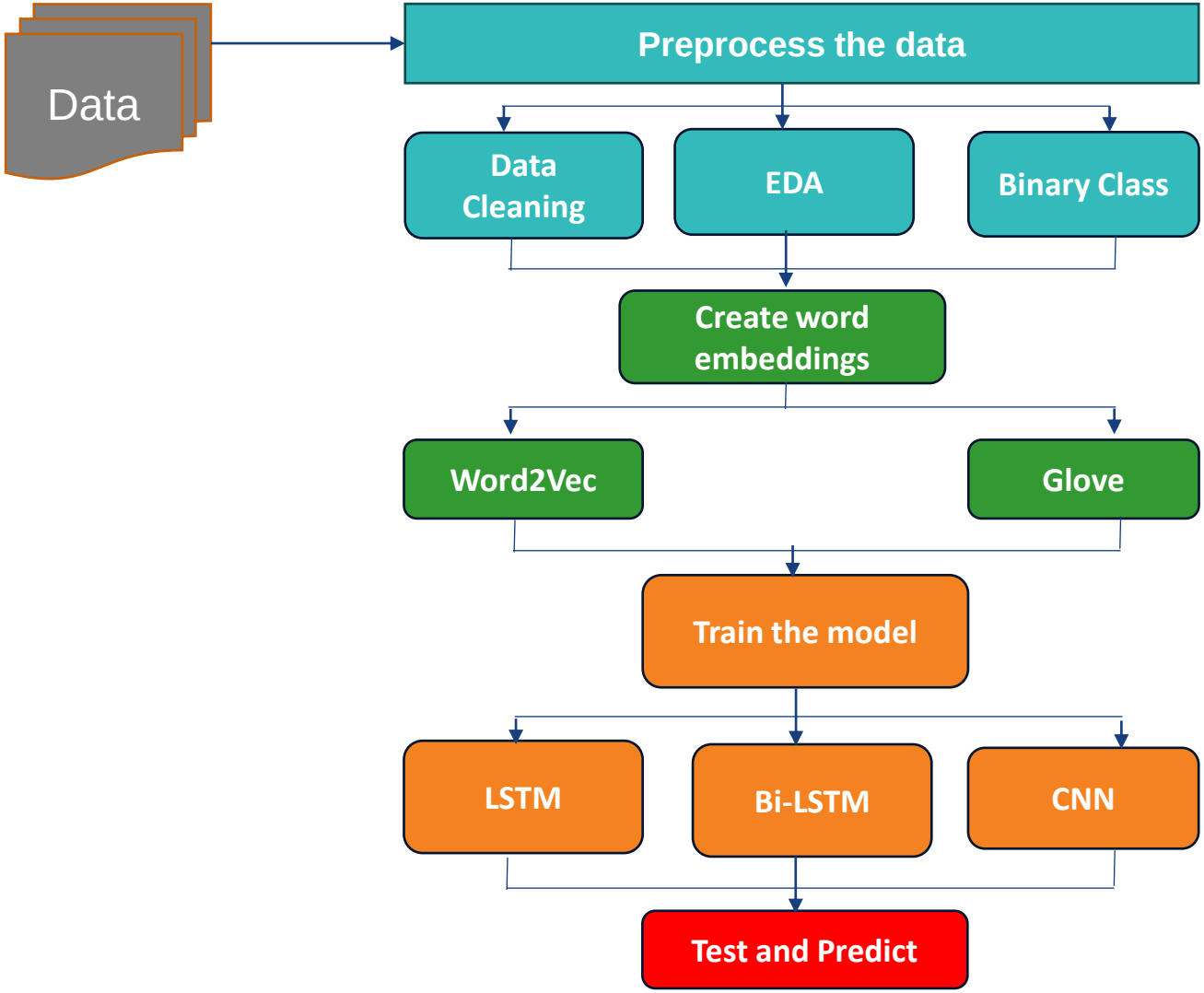
# Application Flow Phase #1



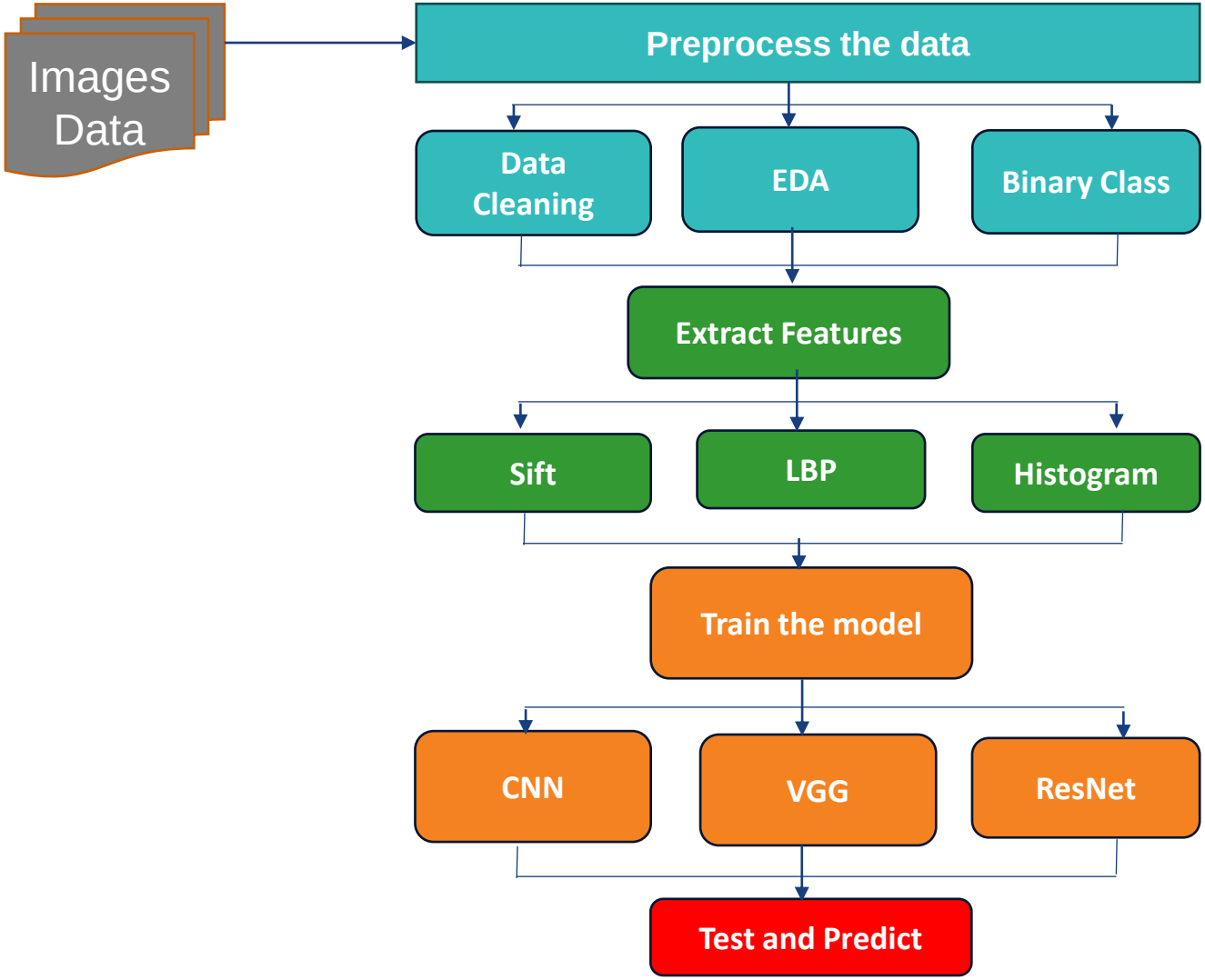
# Application Flowchart Phase #1



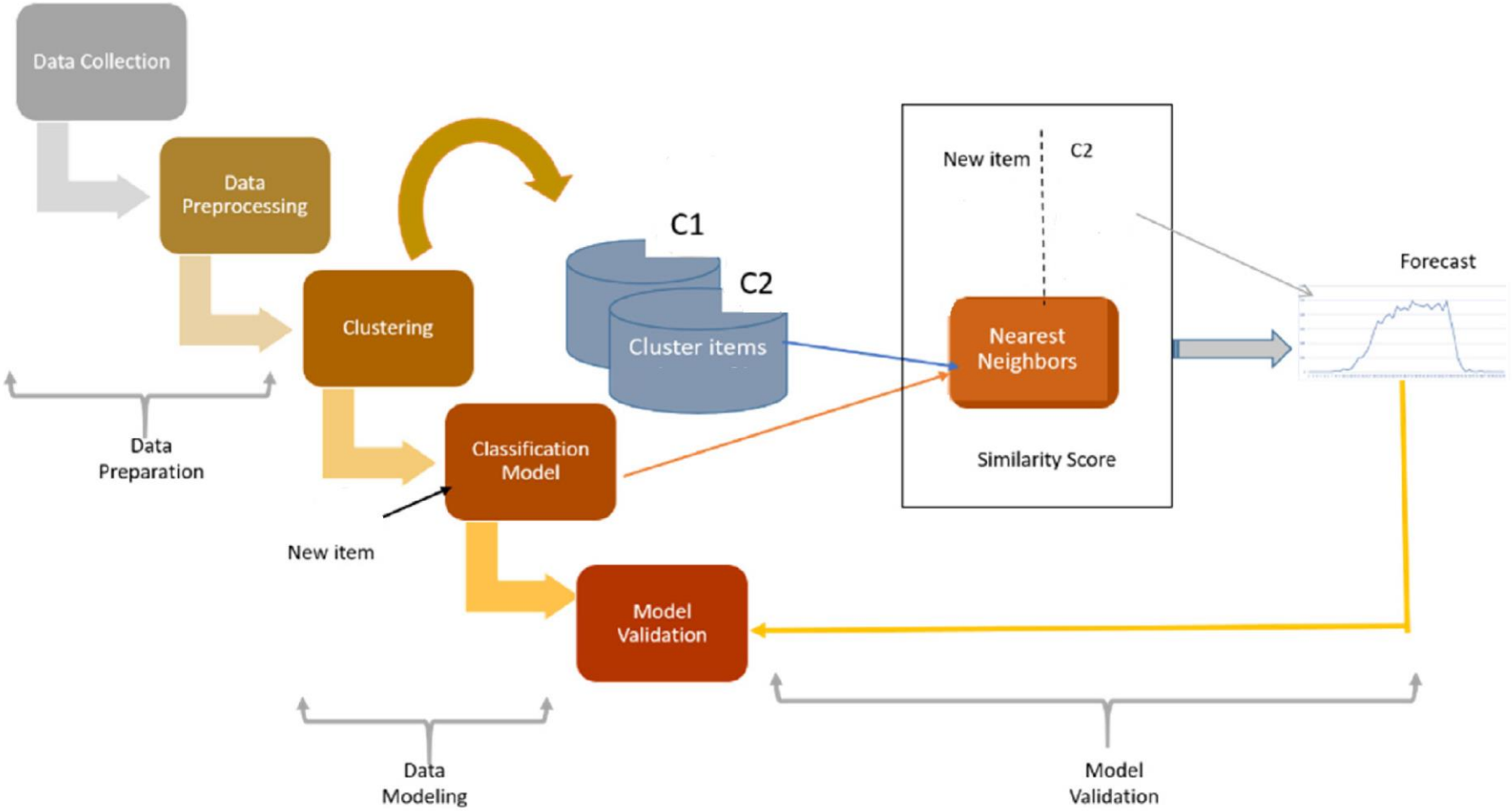
# Binary Category Classification approach



# Image Classification approach



# Experimental design

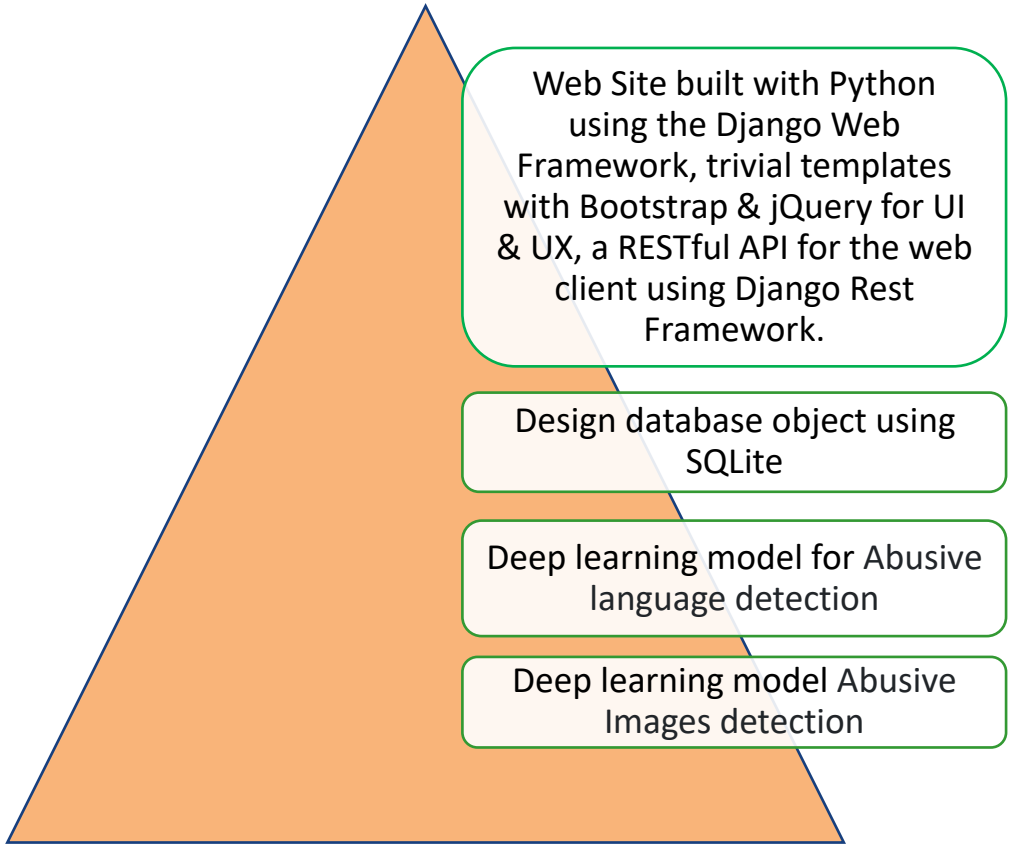


# Requirements Overview

## Resource Requirements

- Python
- NumPy
- Pandas
- Matplotlib
- Tensor Flow
- Sklearn
- Jupyter Notebook
- Google Colab
- GPU
- NLP Techniques
- Computer Vision Techniques
- Spyder
- Django Frame Work

# Project deliverables With Effort Estimates




| Task | # Days |
|---|---|
| Design Web Project / DB Design | 30 Days |
| Data Collection | 10 Days |
| For Abusive language detection | 10 Days |
| Abusive Images detection | 10 Days |

# References


https://github.com/kevintonb/child-abuse-image-classifier

https://github.com/swkarlekar/safecity/tree/master

https://github.com/bhaveshnaidu999/sexual-harassment-classification-project/tree/main

https://github.com/prostasia/rocketchatcsam

https://medium.com/@sam.bell_43711/distracted-driver-detection-using-deep-learning-ecc7216ae8d0

https://github.com/Garima13a/YOLO-Object-Detection/blob/master/YOLO.ipynb

https://colab.research.google.com/github/d2l-ai/d2l-en-colab/blob/master/chapter_deep-learning-computation/use-gpu.ipynb#scrollTo=mwrEJrSCo-OR
https://github.com/opencv/opencv