# Introduction:

In this documentation we are going to explain how AI features are going to implement in our website and explain about technologies involved in those AI features and its architecture.including the Next word suggestion , Emoji prediction based on the emotion, Language Translation, and Violence, Nudity content detection functionalities.
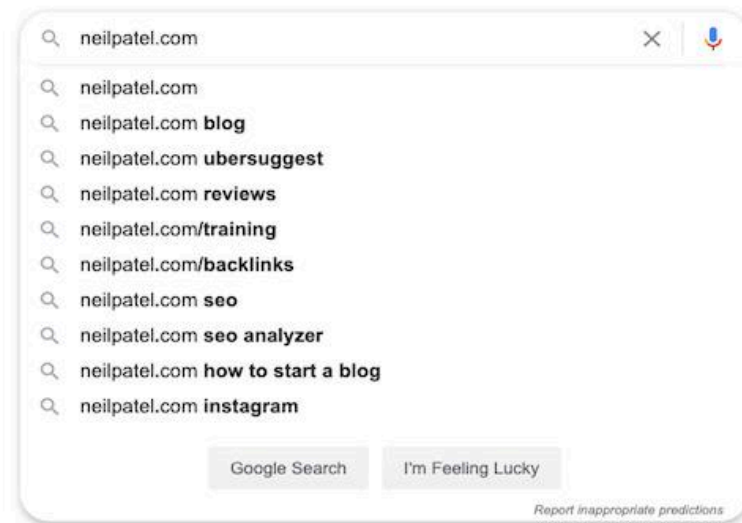
1. Next Word Prediction, is a natural language processing (NLP) task where the goal is to predict the next word , based on the context of the previous words that have come before it. This is an essential building block for many NLP applications, such as text autocompletion.
2. Emoji suggestion , it will enhance user interaction by suggesting relevant emojis based on the emotion of the messages sent by the users .
3. Language Translation, It will translate real-time users messages in a messaging app using a pre-trained LLM .
4. Violence, Nudity content detection using pre trained model.and provide safe and positive environment on the messaging platform.

Feature Details:

● **1.1 Feature** : The next-word prediction feature provides suggestions for the next possible word as a user types a message in the chat. This feature helps users type faster and reduces the effort by predicting the next word based on the context of the sentence.
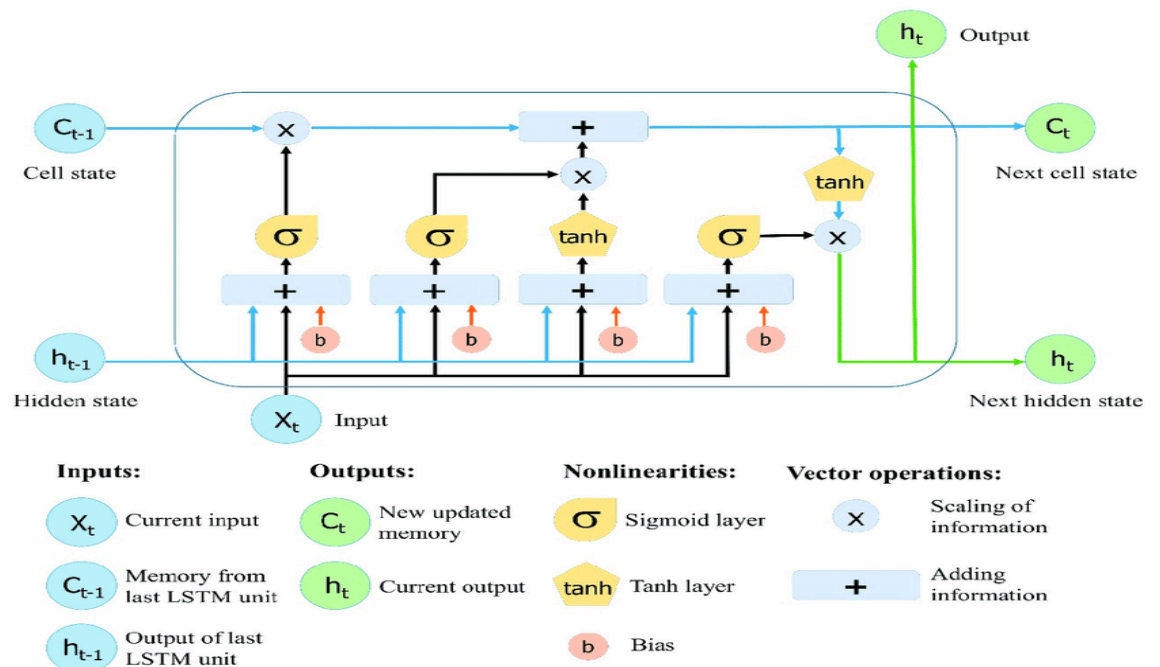 ○ **Example:** 1. Mobile keyboard next word recommendation .
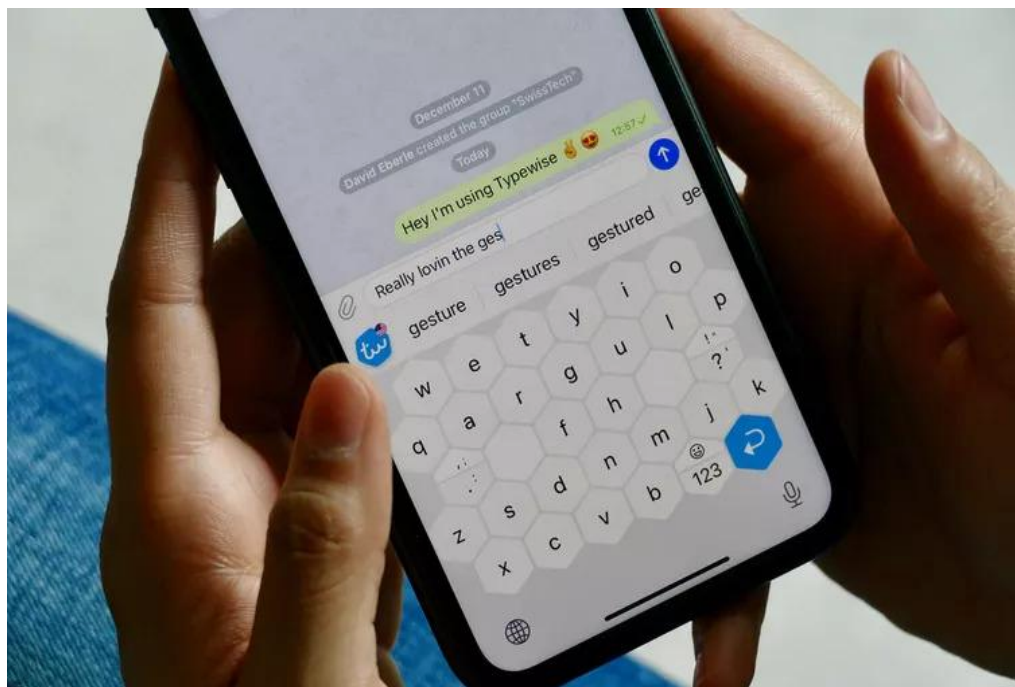
○ **Example 2** : **Whenever we search for something on any search engine, we get many suggestions and, as we type new words in it, we get better recommendations according to our searching context.**

Google

Q neilpatel.com   × 🎤

Q neilpatel.com
Q neilpatel.com **blog**
Q neilpatel.com **ubersuggest**
Q neilpatel.com **reviews**
Q neilpatel.com/**training**
Q neilpatel.com/**backlinks**
Q neilpatel.com **seo**
Q neilpatel.com **seo analyzer**
Q neilpatel.com **how to start a blog**
Q neilpatel.com **instagram**

Google Search   I'm Feeling Lucky

Report inappropriate predictions

○ **Technology Used** : **This feature leverages Natural Language Processing (NLP) and Long Short-Term Memory (LSTM) neural network, it is an advanced recurrent neural network which is capable of storing order states by using its cell state feature.**

Architecture of Bidirectional LSTM Neural Network

Inputs:	Outputs:	Nonlinearities:	Vector operations:
X_t Current input	C_t New updated memory	σ Sigmoid layer	× Scaling of information
C_{t-1} Memory from last LSTM unit	h_t Current output	tanh Tanh layer	+ Adding information
h_{t-1} Output of last LSTM unit		b Bias	

- **2.1 Feature** : when users type their messages, the app analyzes the text and provides emoji suggestions that match the detected emotions .
  Suggested emojis appear above the message input area, allowing users to easily select and insert them into their messages.For this model we use pretrained GloVe 6B 50D word embeddings to obtain vector representations of words.

I love you. ❤️
Lets play baseball. ⚾
That was funny. 😃
hey man, I am upset 😣
I am hungry, lets go for dinner. 🍽️

  - **Example :**

This was a fun party

«party»   partying   🎉 🎈 🎊

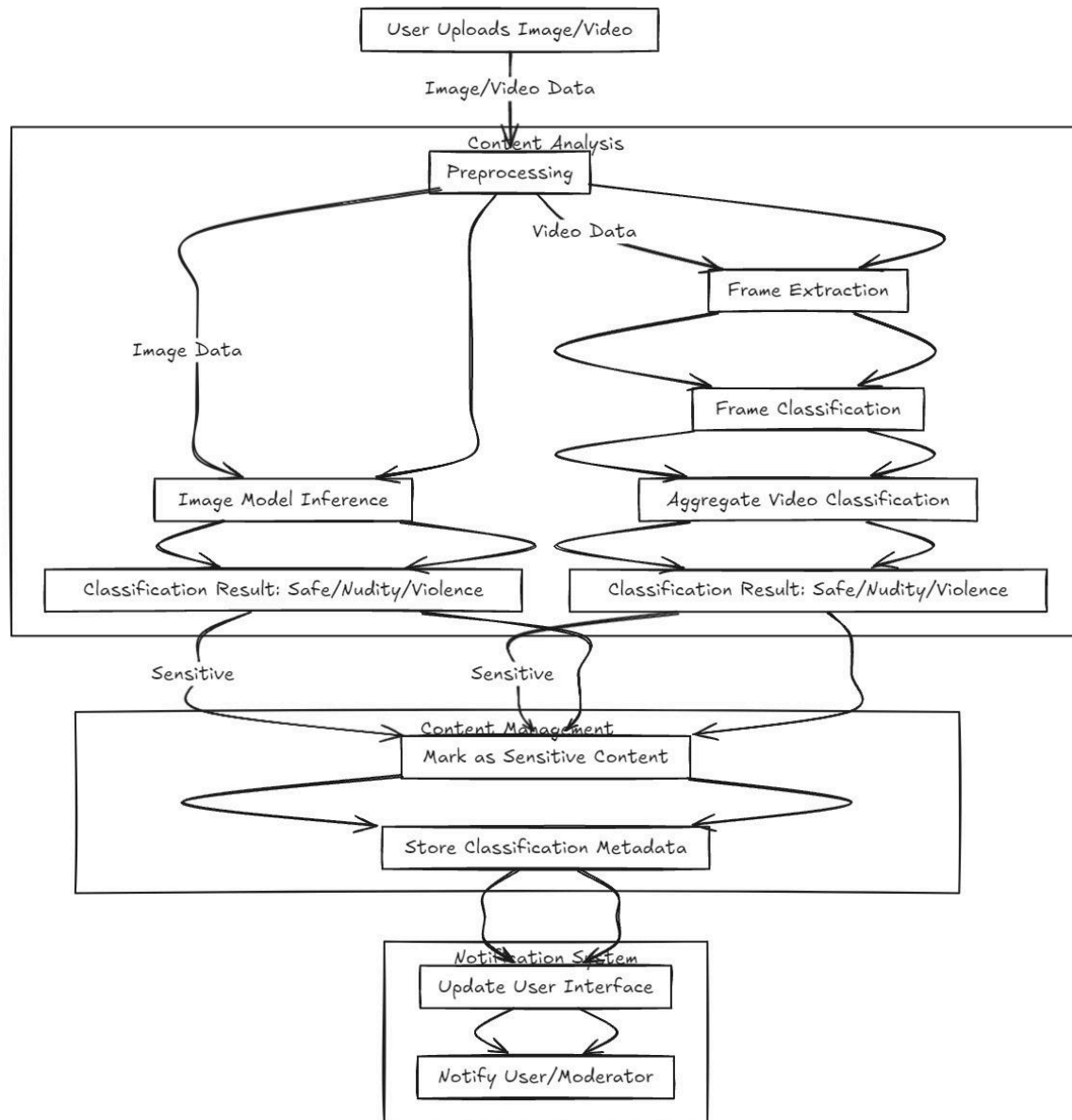q w e r t y u i o p
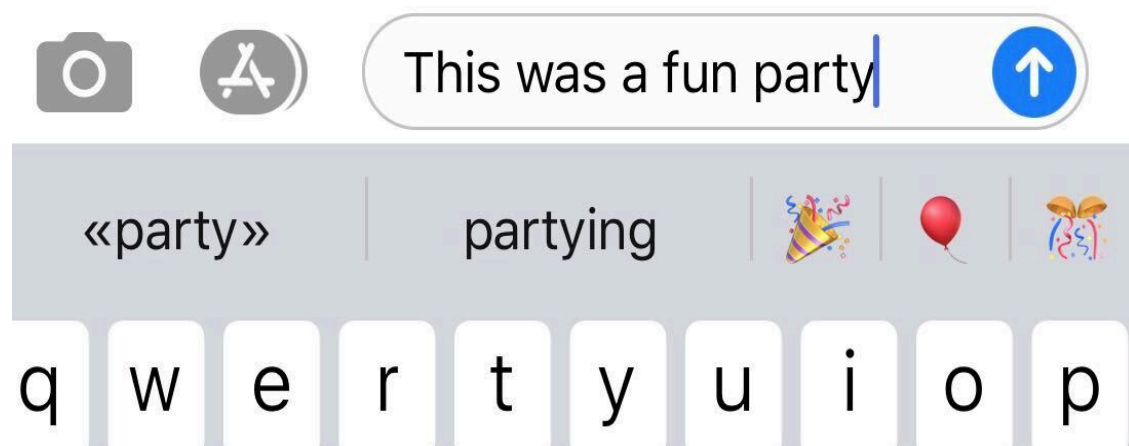
- **3.1 Feature** :   When a user types a message in one language (e.g, English) , The user selects an option to translate the message to another language (e.g., Hindi) or the system automatically translates it.

  - **Technology Used :** Language translation AI models use advanced technologies and techniques from natural language processing (NLP) and machine learning (ML). We are going to use some pre-trained models like GPT, BERT (English to Hindi , Hindi to English). And these models are based on Transformer Technology.

Architecture of transformer
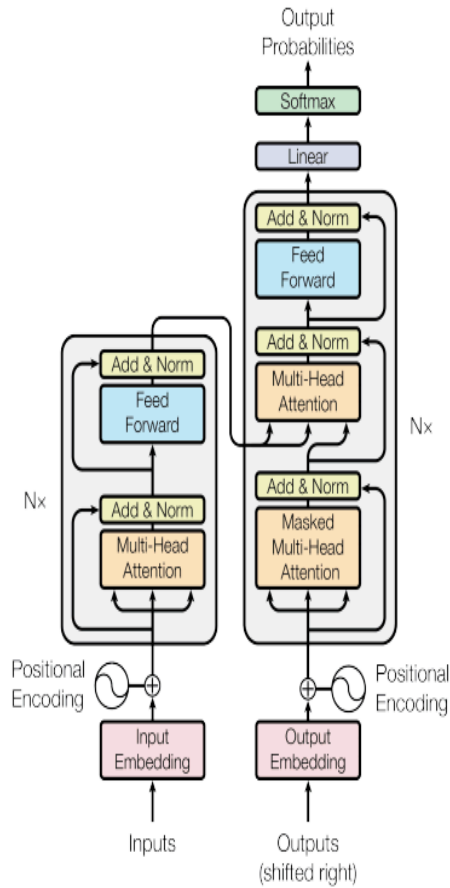
- **4.1 Feature:** **This feature involves detection and classification of photos and videos containing nudity or violence, and making them as sensitive content . This helps maintain a safe and positive environment on the messaging platform.**
To achieve this we are going to use pre-trained Models like VGG,ResNet , and going to Finetune models using the specific dataset.

Flowchart

User Uploads Image/Video

Image/Video Data

Content Analysis

Preprocessing

Video Data

Image Data

Frame Extraction

Frame Classification

Image Model Inference

Aggregate Video Classification

Classification Result: Safe/Nudity/Violence

Classification Result: Safe/Nudity/Violence

Sensitive

Sensitive

Content Management

Mark as Sensitive Content

Store Classification Metadata

Notification System

Update User Interface

Notify User/Moderator

★ **Flowchart How AI features are going to integrate in the website.**