# Next-Word Prediction

**1 Month Bootcamp**

## Week-1

**Business UnderStanding:**

Next-Word prediction is a computer program which is used to predict the next word that a user is likely to type in a given sentence. Next-word prediction is valuable tool for businesses, as it can help improve the user experiences, reduce the amount of time spent typing, and increases the accuracy in natural language processing. Additionally, it can also be used to improve customer service through chatbots and virtual assistants, By incorporating this technology into clients application and services, Businesses can gain a competitive edge and provide their users with a better overall experience.

Approach to data preparation:

* **Data collection**
* **Text preprocessing**
* **Data cleaning**
* **Data splitting**
* **Vocabulary creation**
* **Text representation**

**Models:**

There are many different models that can be used for natural language processing (NLP) projects, depending on the specific task and the data available. Here are some of the most common models used in NLP:

* **Bag-of-Words (BoW**
* **n-gram models**
* **Recurrent Neural Networks (RNNs)**

**List of tools for model and deployment:**

* Python IDE
* NLTK(Natural language Took Kit)
* Scikit-learn
* Keras
* Flask
* HTML
* Heroku

**Week 2**

**Text preprocessing**

**Used :**

**NLTK for tokenizing**

**Week 3:**

**Model building:**

**Used LSTM, Bi-directional LSTM as my model**

**Week 4:**

**Model Deployment:**

**Deployed model in Streamlit**