

**Introduction to Natural Language Processing**

**(Semester Project)**

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| **Submission:** 20-4-2023 | Marks: 10 | **Semester:** Spring 2023 |
| **Course Code: SECP2043** | **Course Instructors:** Dr. Ali Saeed | |

**Assignment must be submitted using ODDO portal**

**Question # 1. [CLO 4]**

**Intelligent AI - NLP System having the following functionalities:**

## Intelligent Chatbot with Advanced Question-Answering Capabilities [Marks 4]

Develop Python code for a voice-based chatbot. The input is in voice, processing is done in text, and the output is in voice [marks 10]

Use following key concepts

* Develop dataset of 200 questions and answers
* Implement using Jaccard Similarity approach
* Text to Speech
* Speech to Text

## Intelligent Sentiment Analysis: [Marks 3]

Use pretrained transformer to implement voice-based sentiment analysis. User input a voice and system generates an output that “your sentence is positive / negative”

Use following key concepts

* Pretrained transformer
* Text to Speech
* Speech to Text

## Intelligent Language Translation: [Marks 3]

Use pretrained transformer to implement language translation from English to Urdu.

Submit **.ipynb** (which can be downloaded from Google Colab)file with output screens