

PHASE 2 : MODEL DEVELOPMENT AND EVALUATION

1. ABSTRACT:

Tara stands as a groundbreaking AI assistant meticulously crafted to elevate daily productivity through seamless voice interaction and automation. At its core, Tara harnesses cutting-edge AI technologies and Python libraries to execute an extensive array of tasks. These encompass managing emails, navigating the web, system administration, and delivering real-time updates on weather, news, and beyond. By exemplifying how AI can seamlessly integrate into everyday life, this project demonstrates the potential of Tara as a reliable, efficient, and indispensable personal assistant.

`pyttsx3` falls under the category of Natural Language Processing (NLP) in the broader field of Artificial Intelligence (AI).

Natural Language Processing involves the interaction between computers and human (natural) languages. In the case of `pyttsx3`, it is specifically concerned with the generation of human-like speech from text. This process typically involves the use of machine learning algorithms and linguistic rules to convert written text into spoken words, mimicking the way humans speak.

Within NLP, text-to-speech (TTS) conversion is an important area that enables various applications such as virtual assistants, accessibility tools for visually impaired individuals, language learning platforms, and more.

So, while `pyttsx3` itself is not an AI algorithm, it provides a useful tool for developers working in the field of NLP to incorporate speech synthesis capabilities into their AI applications.

2. SYSTEM REQUIREMENTS:

1. Hardware Requirements:

- Processor: Intel Core i5 or equivalent
- RAM: Minimum 4 GB (8 GB recommended)
- Storage: At least 500 MB of free disk space
- Microphone: For voice command input
- Speakers: For audio output

2. Software Requirements:

- **Operating System:** Windows 10 or later
- **Python:** Version 3.7 or later
- **Internet Connection:** Required for web-based functionalities like **email**, **weather updates**, and **news retrieval**.

3. Tools and Versions:

- **Python:** Version 3.7+
- **pyttsx3:** 2.90
- **datetime:** Standard Python library
- **speech_recognition:** 3.8.1
- **wikipedia:** 1.4.0
- **smtplib:** Standard Python library
- **webbrowser:** Standard Python library
- **os:** Standard Python library
- **pyautogui:** 0.9.53
- **psutil:** 5.9.0
- **pyjokes:** 0.6.0
- **requests:** 2.25.1
- **json:** Standard Python library