

## Module Summary: Babel Fish with LLM and STT TTS

Congratulations! You have completed this module. At this point in the course, you know:

- IBM watsonx is an AI and data platform with a set of AI assistants designed to help you scale and accelerate the impact of AI with trusted data across your business.
- IBM Watson® Speech Libraries for Embed is a set of containerized text-to-speech and speech-to-text libraries designed to offer our IBM partners greater flexibility to infuse the best of IBM Research® technology into their solutions. These technologies allow the assistant to communicate with users through voice input and output.
- A virtual assistant is a program designed to simulate conversation with human users, especially over the internet, using natural human voice.
- You can use Python and Flask to build the backend of your voice assistant.
- HTML, CSS, and JavaScript technologies allow you to build a visually appealing and interactive front end for your assistant.

In the module, you created a voice-enabled AI translator and learned:

- How to implement speech-to-text functionality to allow the assistant to understand voice input from users
- How to integrate the assistant with watsonx's flan-ul2 model to give it a high level of intelligence and the ability to understand and respond to user requests
- How to implement text-to-speech functionality to allow the assistant to communicate with users through voice output
- How to combine all components to create a functioning assistant that can take voice input and provide a spoken response
- How to deploy the voice assistant to a web server for use by a wider audience