

# Conversational chatbot using google cloud dialogflow

## Project Report

Team Members: Moulica Vani Goli, Beryl Caleb, Tharani Vaddi

### Abstract

Generating a conversational chatbot using Google Cloud's Dialogflow involves leveraging Dialogflow's natural language understanding capabilities to build intelligent and contextually aware chatbots. Dialogflow provides a user-friendly interface for designing conversational experiences, managing intents, and integrating with various messaging platforms. We are using other GCP services like AppBuilder, AppFunction in order to integrate the chatbot with our website

## 1 Introduction

In this project, we are developing a conversational AI chatbot using Google Cloud Dialogflow (GCD) for a university. Conversational chatbots have become increasingly prevalent in modern society, serving as virtual assistants capable of understanding natural language queries and providing relevant responses. In educational institutions like universities, deploying chatbots can streamline various processes such as student inquiries, course information dissemination, and administrative tasks. In this project we are using different services like AppBuilder, GCD, AppEngine in the GCP and the google cloud console.

## 2 Architecture

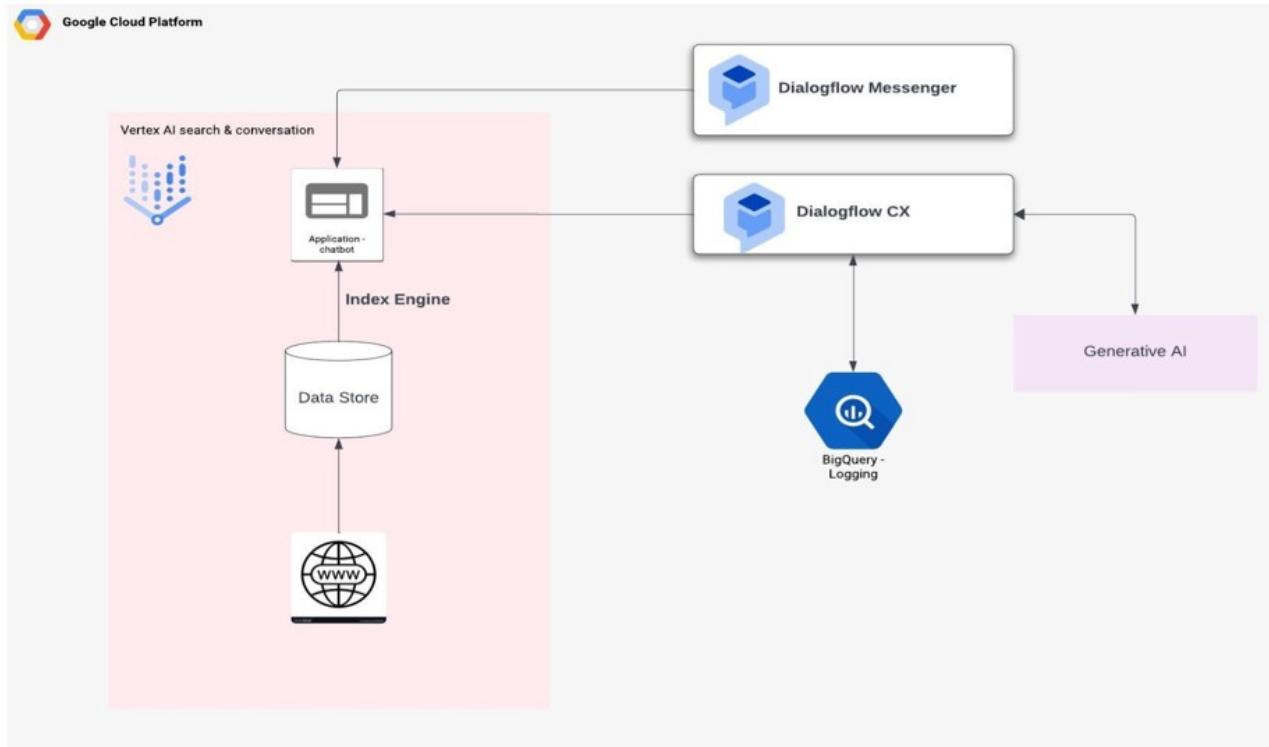


Figure 1: Architecture

### 3 Overview for Agent Builder and GCD

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**Agent Builder:** Agent Builder, provided by Google Cloud Platform, is a visual tool for building chatbots and voice bots. It offers a user-friendly interface, integrates with other Google Cloud services, and supports multiple messaging channels.

**Dialogflow:** Dialogflow, developed by Google, is a natural language understanding (NLU) platform for designing conversational interfaces. It understands user input, supports context management, and integrates with various Google services. It's versatile, supporting various platforms and devices.

Both tools offer powerful features, with Agent Builder focusing on visual design and ease of use, while Dialogflow emphasizes NLU capabilities and extensive integrations.

### 4 Methodology

DataSet: First we create a dataset it can be normal files.In our project we have given Artificial Intelligence: A Modern Approach, 4th Edition as pdf our dataset.

#### Step By Step Process:

- Use the Agent Builder Service for creating the chat bot as the first step.
- In the Agent Builder, proceed to the Datastore section, where you'll create a datastore. Choose a source, such as Cloud Storage, and then specify a bucket for storage.

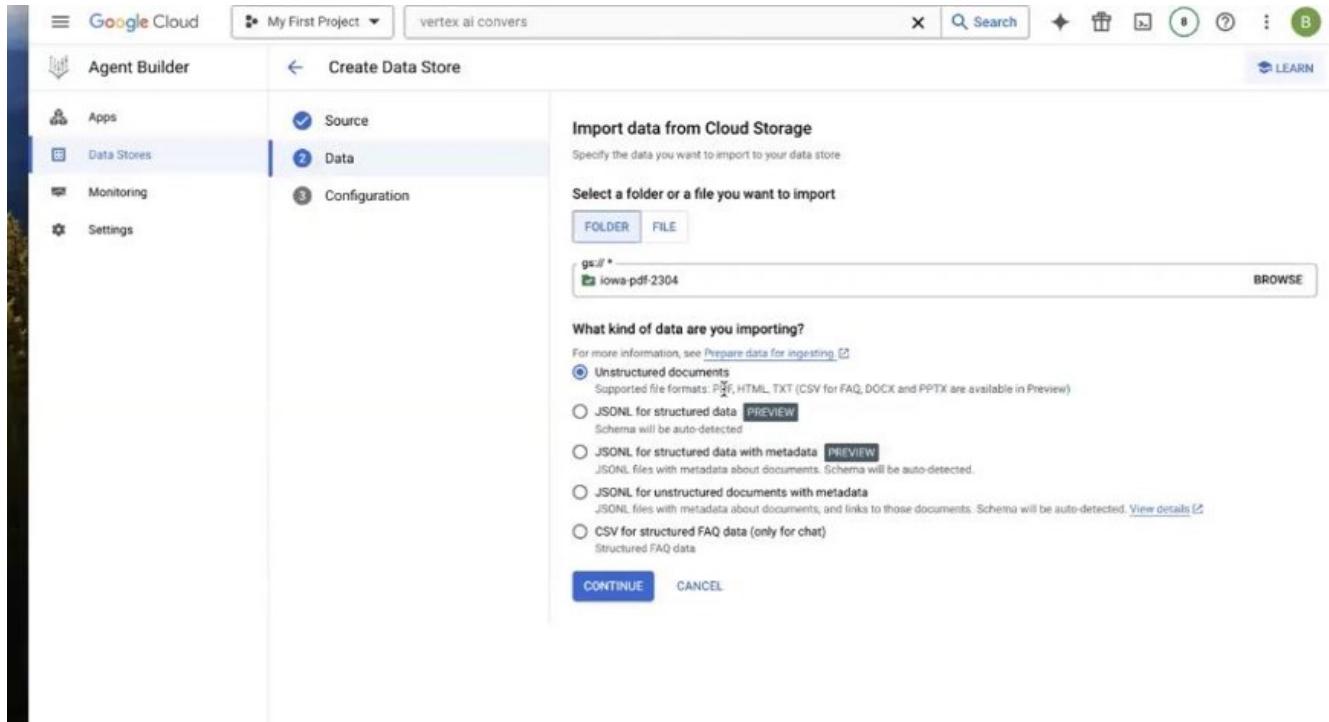


Figure 2: Enter Caption

- Create an app using the chat feature. Select the storage option, pulling data from the Datastore, and proceed to create the app.
- When you click on the app, it will redirect you to Dialogflow. Here, you can customize the agent settings according to your preferences, or you can stick with the default settings.

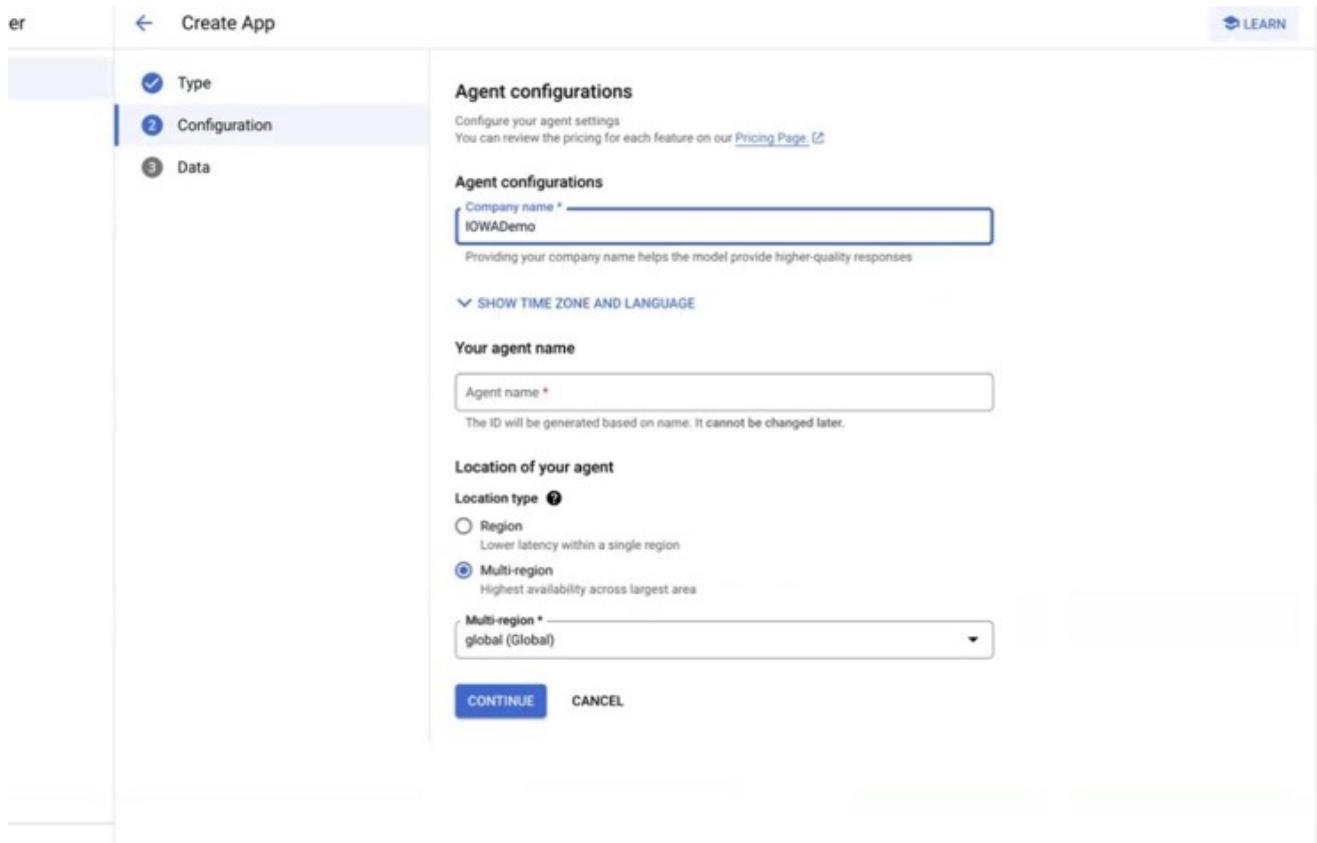


Figure 3: Enter Caption

- Next, integrate the chatbot with your website. In Dialogflow, utilize the Integration feature. You can integrate the chatbot with various apps, such as Slack. However, in our case, we'll integrate it with Dialogflow Messenger for the website.
- After integrating we will use the google console for deploying into GCP.

## 5 Results

The below link will redirect to the chatbot we have created.

Note: <https://iowademo-dot-alert-autumn-416405.uc.r.appspot.com/>  
Note: Attached the code snippet created in GCP

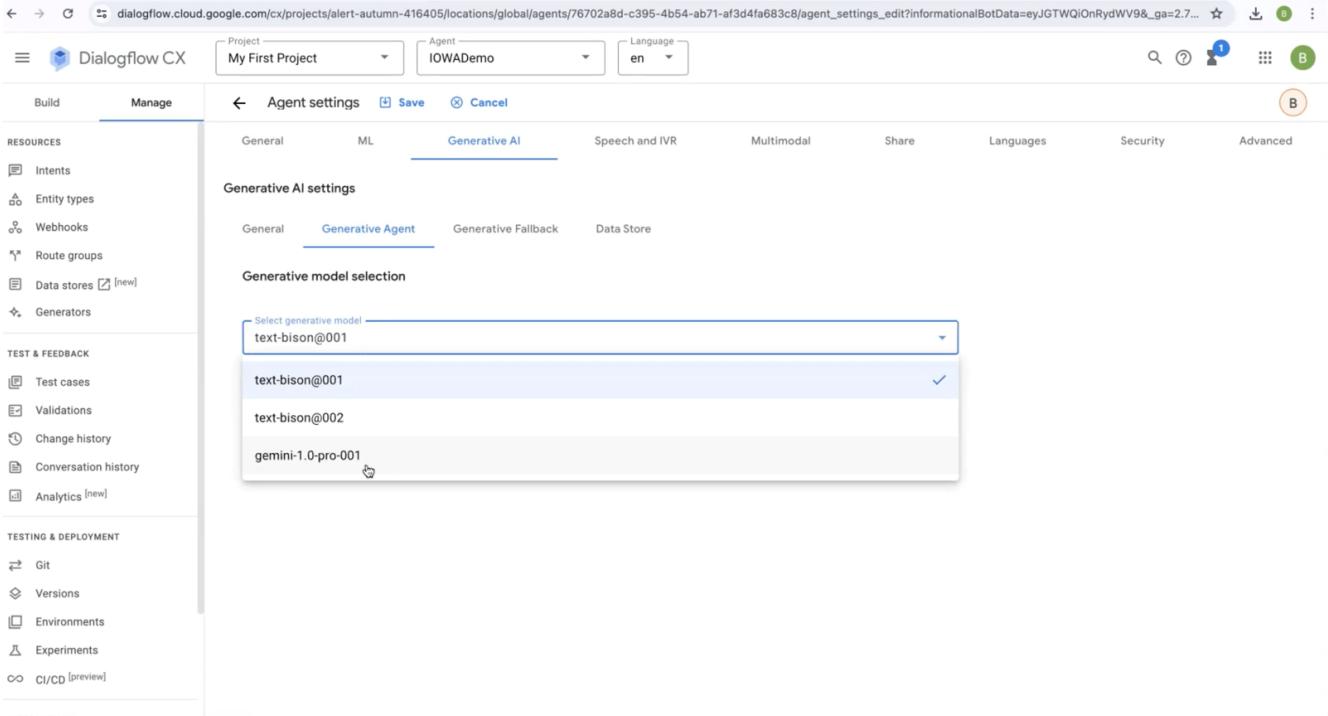


Figure 4: Enter Caption

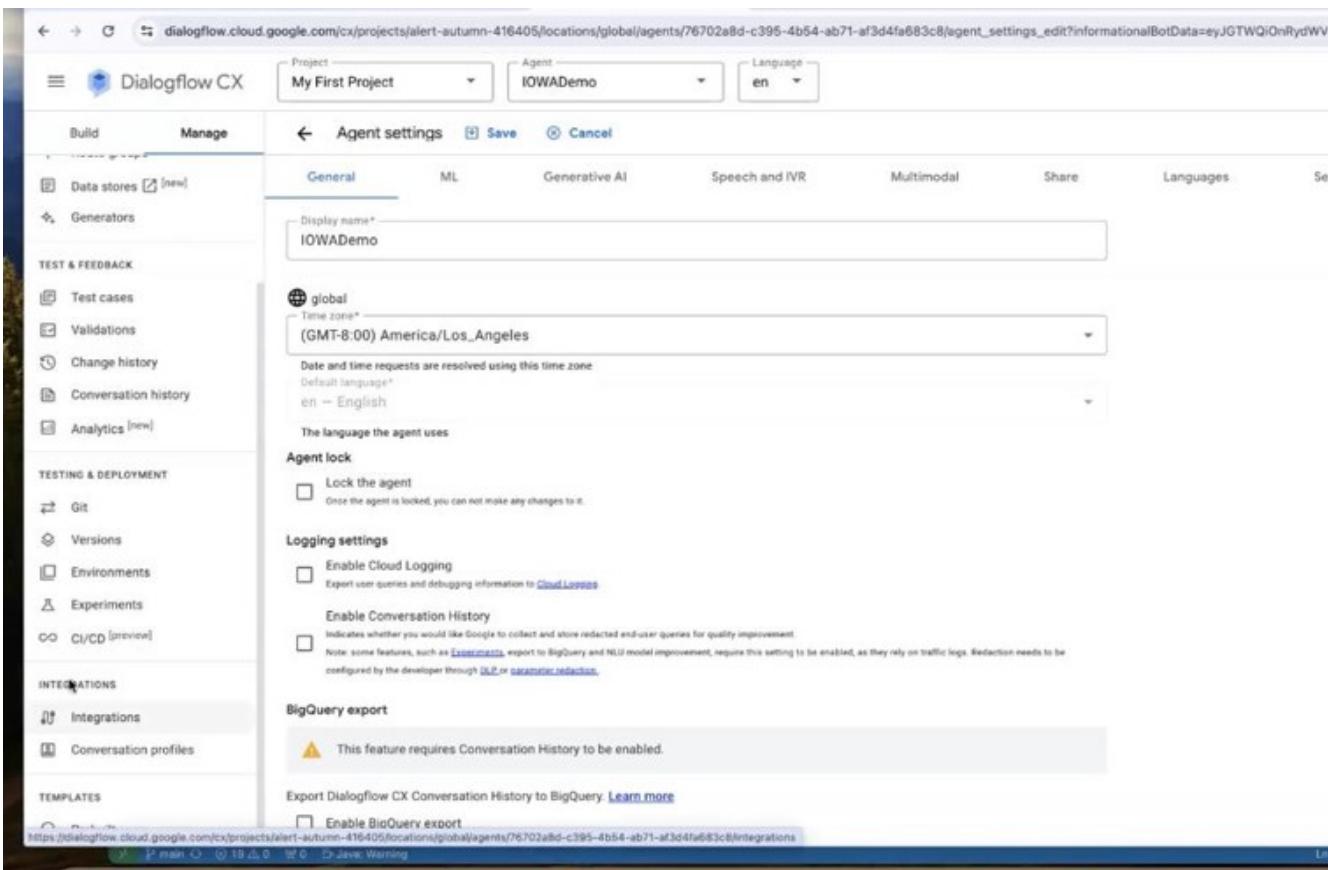


Figure 5: Enter Caption

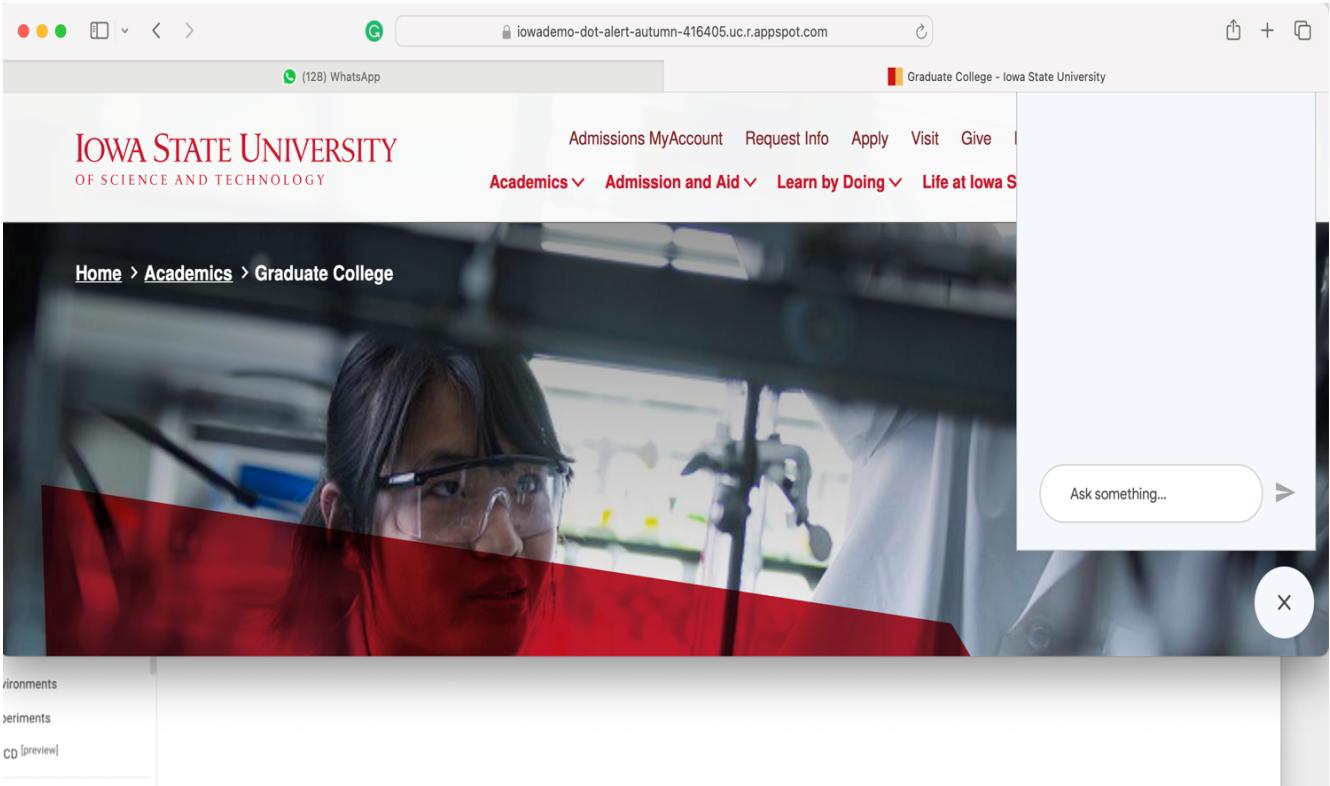


Figure 6: Result

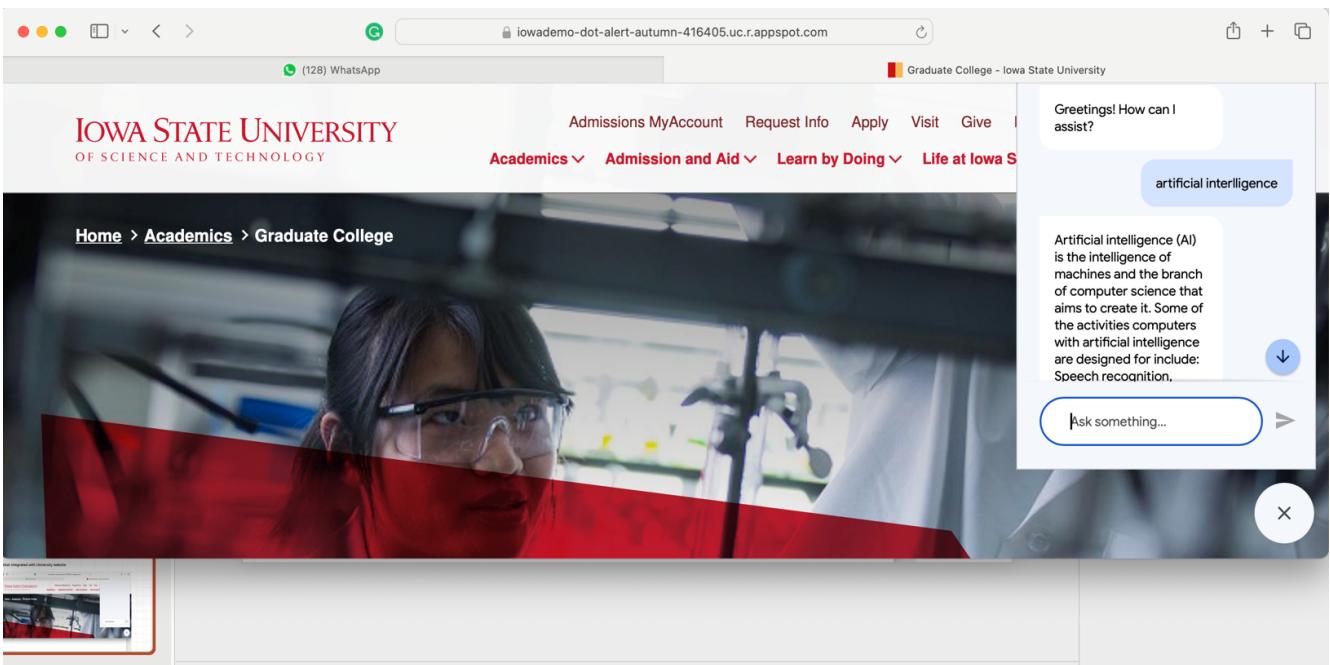


Figure 7: Enter Caption

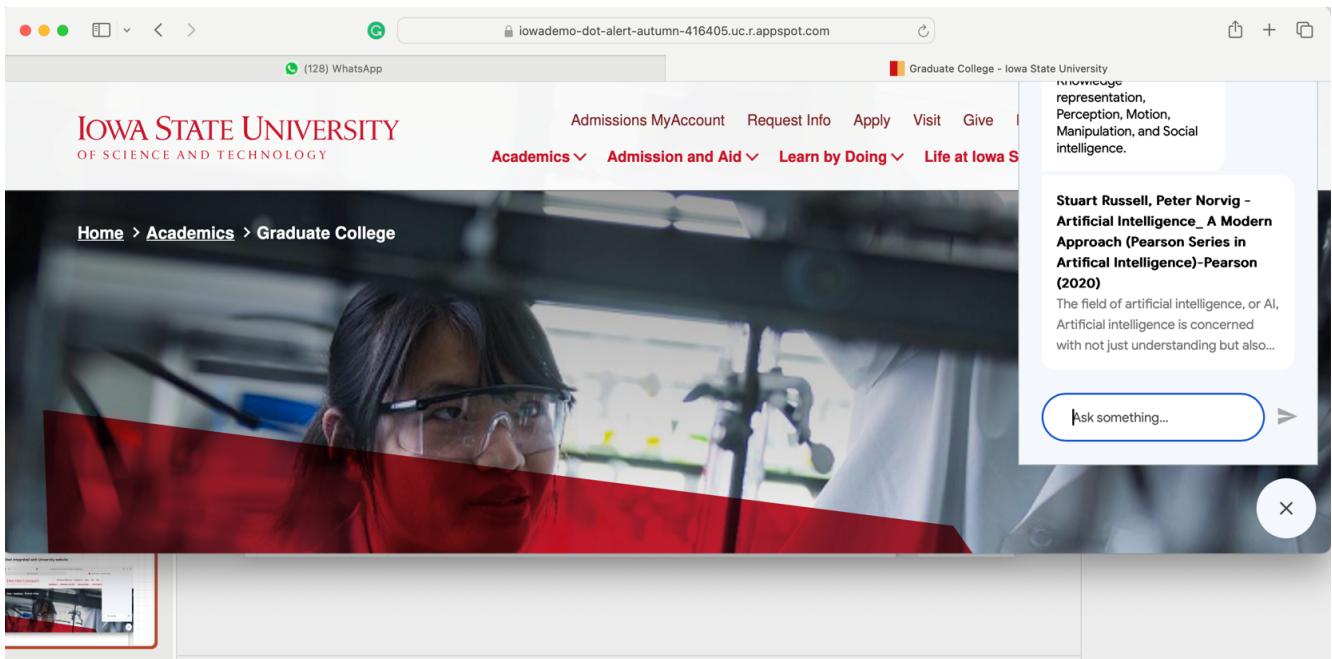


Figure 8: Result