

System Integration Final Project Documentation

Name: Dedeepya Ramineni

API NAME: Language Service - Entity Recognition

Microsoft Azure Document [click](#)

INTRODUCTION:

Entity recognition is an assortment of AI and AI calculations in the cloud for creating astute applications that include composed language. The NER element can recognize and classify substances in unstructured text. For instance: people, places, organizations, and quantities.

Named Entity Recognition:

The effort of recognizing and classifying vital information (entities) in text — sometimes known as entity chunking, extraction, or identification — An entity can be any term or group of words that refers to the same item on a regular basis.

Method: POST

Body Param: should be a JSON:

```
{"inputText":["Microsoft was founded by Bill Gates and Paul Allen on April 4, 1975, to develop and sell BASIC interpreters for the Altair 8800",
```

```
"La sede principal de Microsoft se encuentra en la ciudad de Redmond, a 21 kilómetros de Seattle.",
```

```
"Hi this is Dedeepya",
```

```
"Seattle is a beautiful place to visit",
```

```
"Power people will make places powerful"]}]}
```

Status Code:

200: String Information Successfully Retrieved

400: Request body is invalid

401: Access denied due to invalid subscription key

Swagger request Body:

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Entity Recognition

POST /entity

Calls the Entity Recognition API from Azure

Parameters

Cancel

Name	Description
body <small>required</small> array[string] (body)	Input to send to NER API in Azure. Edit Value Model

```
{  "inputText": [    "Microsoft was founded by Bill Gates and Paul Allen on April 4, 1975, to develop and sell BASIC interpreters for the Altair 8800",    "La sede principal de Microsoft se encuentra en la ciudad de Redmond, a 21 kilómetros de Seattle.",    "Hi this is Dedeeyya",    "Seattle is a beautiful palce to visit",    "Power people will make places powerful"  ]}
```

Cancel

Parameter content type
application/json

Execute Clear

Swagger Response Body:

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Responses

Response content type: application/json

Curl

```
curl -X 'POST' \  "http://137.184.115.225:3000/entity" \  -H 'accept: application/json' \  -H 'Content-Type: application/json' \  -d '{  "inputText": [    "Microsoft was founded by Bill Gates and Paul Allen on April 4, 1975, to develop and sell BASIC interpreters for the Altair 8800",    "La sede principal de Microsoft se encuentra en la ciudad de Redmond, a 21 kilómetros de Seattle.",    "Hi this is Dedeeyya",    "Seattle is a beautiful palce to visit",    "Power people will make places powerful"  ]  }'
```

Request URL
http://137.184.115.225:3000/entity

Server response

Code Details

200

Response body

```
{  "id": "0",  "warnings": [],  "entities": [    {      "text": "Microsoft",      "category": "Organization",      "offset": 0,      "length": 9,      "confidenceScore": 0.99    },    {      "text": "Bill Gates",      "category": "Person",      "offset": 20,      "length": 10,      "confidenceScore": 1    },    {      "text": "Paul Allen",      "category": "Person",      "offset": 40,      "length": 10,      "confidenceScore": 0.99    }  ]}
```

Response headers

```
access-control-allow-origin: *  connection: keep-alive  content-length: 144  content-type: application/json; charset=utf-8  date: Mon, 02 May 2022 01:01:08 GMT  etag: W/"50c07a0b2c74f6a001ab780"  keep-alive: timeout=5  x-powered-by: Express
```

Responses

Code	Description
200	Successfully retrieved

key phrase extraction:

Key phrase extraction is a cloud-based library of machine learning and AI algorithms for constructing intelligent apps that use written language. To rapidly find the essential concepts in a document, use key phrase extraction.

Method: POST

Body Param: should be a JSON:

```
{ "KeyphraseText": [
  "My cat might need to see a veterinarian."
]
```

Status Code:

200: String Information Successfully Retrieved

400: Request body is invalid

401: Access denied due to invalid subscription key

Swagger request body:

The image shows a Swagger UI interface for a REST API endpoint. At the top, a status bar indicates a 200 response with the message "Successfully retrieved". Below this, the endpoint is identified as "Key_phrase" with a POST method. The description states, "Calls the Entity Recognition API from Azure". The "Parameters" section is empty, with a "Cancel" button. The "body" section is marked as "required" and is of type "array[string]". Its description is "Input to send to NER API in Azure." Below this, there is an "Edit Value" button and a text area containing a JSON object:

```
{  "KeyphraseText": [    "My cat might need to see a veterinarian."  ]}
```

. At the bottom of the body section, there is a "Cancel" button and a dropdown menu for "Parameter content type" set to "application/json". At the very bottom, there is an "Execute" button and a "Clear" button. The "Responses" section at the bottom right shows a dropdown for "Response content type" set to "application/json".

Swagger response body:

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Responses Response content type: application/json

Curl

```
curl -X 'POST' \
  'http://137.184.115.225:3000/Key_phrase' \
  -H 'accept: application/json' \
  -H 'Content-Type: application/json' \
  -d '{
    "keyphraseText": [
      "My cat might need to see a veterinarian."
    ]
  }'
```

Request URL

http://137.184.115.225:3000/key_phrase

Server response

Code	Details
200	<p>Response body</p> <pre>{ "id": "0", "warnings": [], "entities": [{ "text": "veterinarian", "category": "PersonType", "offset": 17, "length": 11, "confidenceScore": 1 }] }</pre> <p>Response headers</p> <pre>access-control-allow-origin: * connection: keep-alive content-length: 131 content-type: application/json; charset=utf-8 date: Mon, 02 May 2022 01:56:09 GMT etag: W/"83-852vgtttsc/xkx1qgdk6o7M" keep-alive: timeout=5 x-powered-by: Express</pre>

Responses

Code	Description
200	Successfully retrieved

Personally Identifiable Information (PII) detection:

PII detection is a cloud-based set of computational intelligence technologies for constructing intelligent apps that use written language. The PII detection function is capable of identifying, categorizing, and redacting sensitive information in textual information.

Method: POST

Body Param: should be a JSON:

```
{
  "PIIText": [" ashok mobile number is 555-555-5555"]
}
```

Swagger request body:

The image shows a Swagger UI interface for a REST API endpoint. At the top, a green banner indicates "Successfully retrieved". Below this, the API endpoint is identified as "POST /PII". A description states, "Calls the Entity Recognition API from Azure". The "Parameters" section is currently empty, with a "Cancel" button. The "body" section is marked as "required" and specifies the type "array(string)" with a description "Input to send to NER API in Azure." Below this, there is a text area for editing the body, containing a JSON snippet:

```
{
  "PIIText": [
    "The employee's phone number is (555) 555-5555."
  ]
}
```

. A "Cancel" button is located below the text area. At the bottom, a dropdown menu for "Parameter content type" is set to "application/json". The interface concludes with "Execute" and "Clear" buttons.

Not Secure | 137.184.115.225:3000/api-docs/#/PII/post_PII

Successfully retrieved

PII

POST /PII

Calls the Entity Recognition API from Azure

Parameters Cancel

Name	Description
body required	Input to send to NER API in Azure.
array(string) (body)	
Edit Value	Model

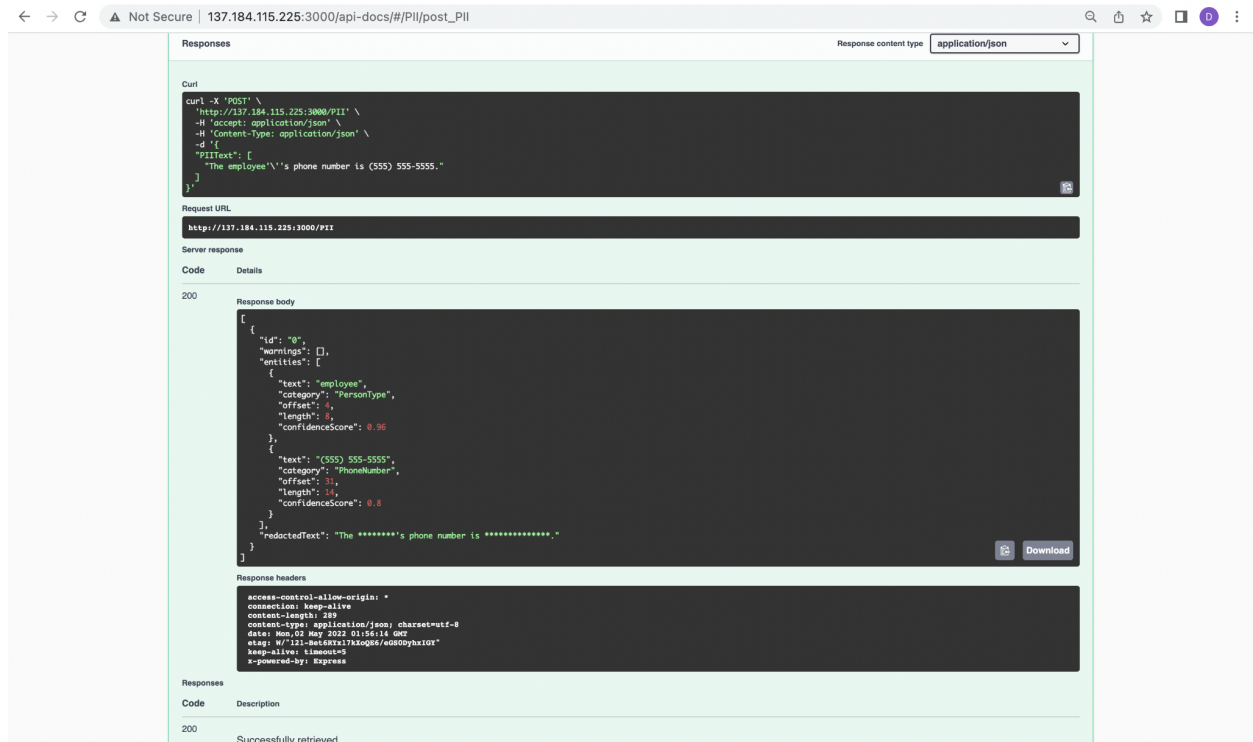
```
{
  "PIIText": [
    "The employee's phone number is (555) 555-5555."
  ]
}
```

Cancel

Parameter content type
application/json

Execute Clear

Swagger response body:



The screenshot displays a web browser window with the Swagger UI for an API. The address bar shows the URL `137.184.115.225:3000/api-docs/#/PII/post_PII`. The interface is divided into several sections:

- Responses:** A dropdown menu at the top right is set to `application/json`.
- Curl:** A text area containing the following command:

```
curl -X 'POST' \
  'http://137.184.115.225:3000/PII' \
  -H 'accept: application/json' \
  -H 'Content-Type: application/json' \
  -d '{
    "PIIText": [
      "The employee\'s phone number is (555) 555-5555."
    ]
  }'
```
- Request URL:** A text field showing `http://137.184.115.225:3000/PII`.
- Server response:** A table with two columns: **Code** and **Details**. The first row shows a **Code** of `200 and a Details section containing the Response body and Response headers.`
- Response body:** A JSON object displayed in a dark-themed editor:

```
{
  "id": "0",
  "warnings": [],
  "entities": [
    {
      "text": "employee",
      "category": "PersonType",
      "offset": 0,
      "length": 8,
      "confidenceScore": 0.96
    },
    {
      "text": "(555) 555-5555",
      "category": "PhoneNumber",
      "offset": 31,
      "length": 14,
      "confidenceScore": 0.8
    }
  ],
  "redactedText": "The *****'s phone number is *****."
}
```
- Response headers:** A text area showing the following headers:

```
access-control-allow-origin: *
connection: keep-alive
content-length: 889
content-type: application/json; charset=utf-8
date: Mon, 02 May 2022 21:54:16 GMT
etag: W/"121-Bet&Xv1?kqg6/w080yha10X"
keep-alive: 100ms
x-powered-by: Express
```
- Responses Table:** A table at the bottom with columns **Code** and **Description**. It contains one row with **Code** `200 and Description Successfully retrieved.`

Tools, Languages and Frameworks Used:

1. Node.js - For implementing the API
2. Digital Ocean - For deploying the project
3. Npm - For dependencies in node js application
4. Swagger - For API documentation and testing
5. Git - For code evaluation

Reference:

Azure documentation:

<https://docs.microsoft.com/en-us/azure/cognitive-services/language-service/personally-identifiable-information/overview>

Source Code:

Github link: <https://github.com/rdedeepya8/FinalProjectSI>

Link to live API: <http://137.184.115.225:3000/api-docs/>