

# UC San Diego Extension Cloud Services for Machine Learning

Summer 2020

Homework#6

Date Given: Aug 3, 2020

Due Date: Aug 9, 2020

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There are 3 problems in this homework assignment.

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Google's GCP Translate API enables organizations to dynamically translate between languages using Google's pre-trained or custom machine learning models.

## Problem#1:

The history of Google's Translate service is documented in a NY Times article entitled "The Great A.I. Awakening" published on Dec. 14, 2016. The following URL will access this document.

<https://bit.ly/nyt-ai-awakening>

This is a 22 pages long document which describes in detail the process Google's engineers used to build the Google's translate service. Summarize this document briefly in a few paragraphs.

## Problem#2:

In this assignment we will use a '**pre-trained**' Neural Network model with the GCP's Translate API service to translate a document into different languages.

Using your own GCP account create a project and enable the Cloud Translate API service for this project.

Next, generate a Translate API Key file in JSON format for this project. Download this file on your personal computer. This file will be used in the next problem.

Copy screenshot of your GCP account to your submission document which shows that you have generated a Translate API key file.

**Problem#3:**

The following paragraph has been taken from the “The Great A.I. Awakening” NY Times article mentioned in Problem#1.

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Pichai was in London in part to inaugurate Google’s new building there, the cornerstone of a new “knowledge quarter” under construction at King’s Cross, and in part to unveil the completion of the initial phase of a company transformation he announced last year. The Google of the future, Pichai had said on several occasions, was going to be “A.I. first.” What that meant in theory was complicated and had welcomed much speculation. What it meant in practice, with any luck, was that soon the company’s products would no longer represent the fruits of traditional computer programming, exactly, but “machine learning.”

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Translate the above paragraph in the following 8 languages with a ‘pre-trained’ model using your GCP account and the API key generated in problem#2.

1. Arabic
2. French
3. German
4. Spanish
5. Chinese
6. Japanese
7. Korean
8. Serbian