



Machine Learning Intern. Task

Recommendation of Job Functions For Specific Job title (Recommendation System)

Description:

Job functions and job titles are very different things. A job title is essentially the name of a position within an organization filled by an employee. Job function is the routine set of tasks or activities undertaken by a person in that position. An employee's title and function are often closely related, though not all job functions are clear based on title alone.

Details:

- a) You are given a dataset that has 3 variables (Job Title, Job Industry & Job Function) in a csv format of more than 10,800 samples. ([download link](#))
- b) You are required to build a system to recommend the job functions in which an employee with a specific job title can work and provide us with the insights on how your system model works.
- c) Answer the following questions:
 - 1) Which techniques you have used while cleaning the data if you have cleaned it?
 - 2) How does your model work?
 - 3) Why have you chosen this approach? (E.g. I built a ML classifier and used Multinomial Naive Bayes because it is easy to interpret with text data and there are more than two outcomes).

- 4) How can you extend the model to have better performance?
- 5) How do you evaluate your model? (i.e. accuracy, F1 score, Recall)
- 6) What are the limitations of your methodology or where does your approach fail? (e.g. your predictions are biased because you do not have enough data for a certain recommendation)

d) Create this script as a RESTful API service in which:

- the input is a HTTP request with a parameter for the "Job title".
- the output is the recommended "job function/s".

Deliverables:

- Your source code.
- The report that answers the above 6 questions and screenshots for your API service outputs.

Suggestions:

1. We prefer to use [Jupyter Notebook](#) with Python for easy documentation).
2. Use [Flask API](#) to deploy the RESTful API service.

Rules:

1. Describe your approach in detail in either Jupyter Notebook or PDF document including all your references and any assumptions you made.
2. Please include all the code snippets/supporting files you have and organize in this clear folder structure
 - a. Root Folder Structure: **YourName_JobFunctionRecommendationTask**
 - b. Subfolders: **01_Code, 02_Report**
3. Send an email with your deliverables as a compressed/zipped version file.