Pointers, Inc. / PointersDigiTech Pvt. Ltd.

Natural Language Processing / Information Extraction - Recruitment Challenge

User Story

People give reviews and feedbacks to each other in an organization. Such reviews and feedbacks are in text form, and generally have more information than simple perceived text. In addition to information, if a single person receives too many feedback/reviews, important ones tend to be ignored due to the volume of going though such text.

In this task, the applicant should develop an end-to-end text analyzer which takes sample text inputs, performs NLP and IE techniques to process the text, and then outputs/processes the following information.

NLP Tasks

(NOTE: A successful applicant may or may not perform each of the following NLP processing, but may achieve the desired results by mix and match of few and preparing a simple algorithm to extract the desired information.)

- **Named-Entity Recognition**
  Analyze and extract the following from the text
  1. Entities
  2. Keywords
  3. Relations
- **Sentiment Analysis**
  Classify the entire and/or part of text as positive, neutral or negative sentiment.
- **Emotion Analysis**
  Classify the emotions in the entire and/or part of text or entities in text (example emotions are happy, sad, anger, fear)
- **Topic Categorization / Content Classification**
  Analyze and classify the content and topics found in the text.
- **Skills/Competency Extraction**
  1. Analyze and extract skills and competencies from unstructured text
  2. Classify extract skill and competency if it was praised or needs to be improved.

Technical Hints

- Applicants are allowed to use any opensource / commercial NLP/IE tools which may help them to achieve the goals, However, reasons for each tool should be provided. The final evaluation will be on the analytical reasoning and final output.
- The output presentation will be considered for final evaluation. For example, outputting directly a result of an NLP service will not be considered good
- A good applicant will use existing tools, combine, prepare a simple information extraction algorithm.
- Inline comments and a supplementary readme is necessary to support and explain the approach employed.

Useful References/Resources

1. Google NLP
2. Amazon Comprehend
3. IBM Watson Natural Language Understanding
4. http://dataatwork.org
5. Attachment: sample feedback/reviews (Feedback+Categories+and+Samples.docx)

Acceptance Criteria

1. All submissions will be evaluated on the applicants approach and reasoning for the approach taken, not the exact output or number of extractions/classifications.
2. Clean coding skills and information extraction flow will be evaluated as a part of final review.

Submission

Your proposed solution should be delivered via Github in a private repository. Add username "**syedaunn**" in repository's settings to give access privately.