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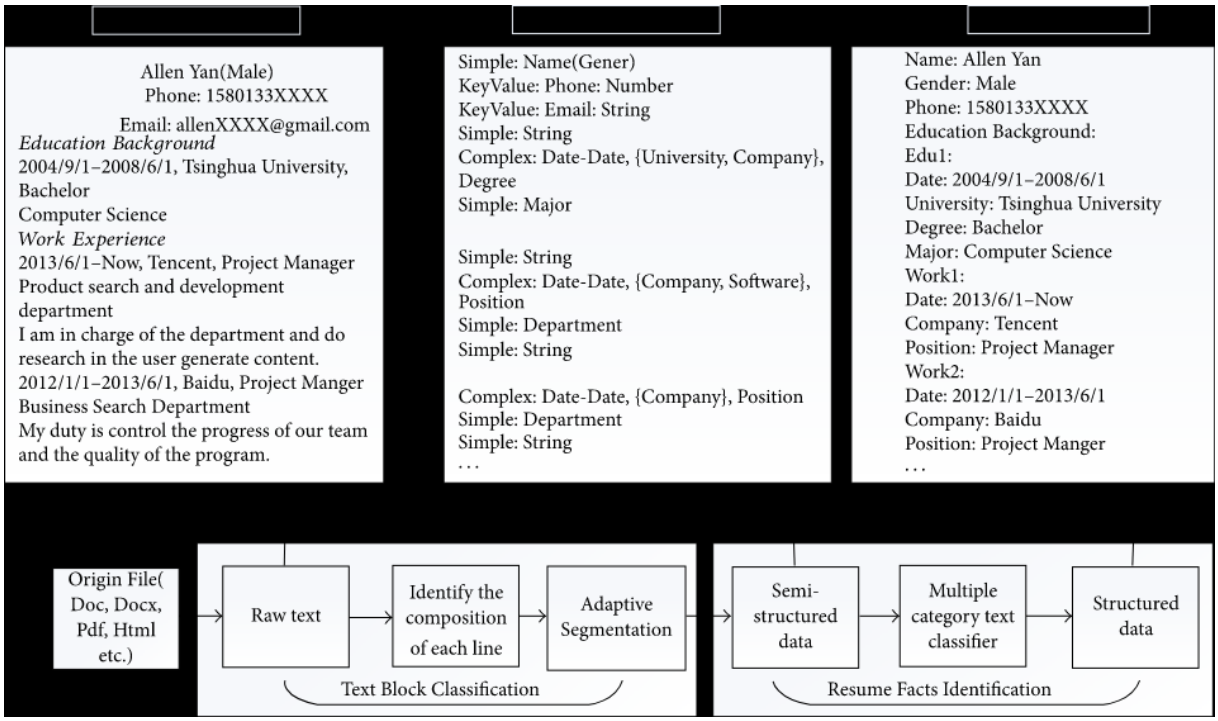
Specialization: NLP

Problem description:

Resumes contain surfeit information that is not relevant for the HR/authority, and they have to manually process the resumes to shortlist the promising candidates for them. And, thus making the shortlisting task a herculean task for HR. By making use of the NER (Named Entity Recognition) model of NLP this problem can be solved by finding and classifying the entities that are present in each resume into predefined classes such as person name, college name, academics information, relevant experiences, skill set, etc.



Data cleaning:

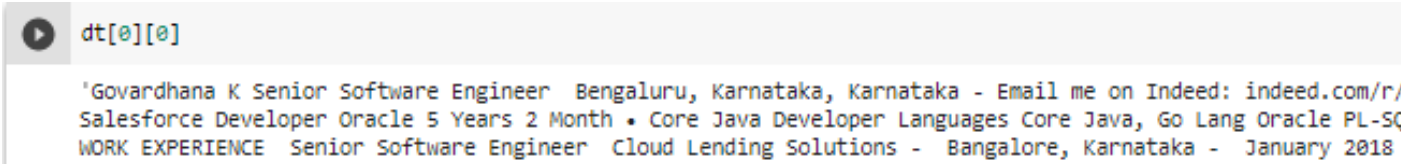
I will be first putting the json data into a more appropriate format, getting rid on the same time of the unnecessary spaces on the right and on the left and only keeping the start point, end point of each label (I won't be needing the text itself).

This is how the annotated text looks like:

```
{'entities': [(1749, 1755, 'Companies worked at'),
  (1696, 1702, 'Companies worked at'),
  (1417, 1423, 'Companies worked at'),
  (1356, 1793, 'Skills'),
  (1209, 1215, 'Companies worked at'),
  (1136, 1247, 'Skills'),
  (928, 932, 'Graduation Year'),
  (858, 889, 'College Name'),
  (821, 856, 'Degree'),
  (787, 791, 'Graduation Year'),
  (744, 750, 'Companies worked at'),
  (722, 742, 'Designation'),
  (658, 664, 'Companies worked at'),
  (640, 656, 'Designation'),
  (574, 580, 'Companies worked at'),
  (555, 572, 'Designation'),
  (470, 493, 'Companies worked at'),
  (444, 468, 'Designation'),
  (308, 314, 'Companies worked at'),
  (234, 240, 'Companies worked at'),
  (175, 198, 'Companies worked at'),
  (93, 136, 'Email Address'),
  (39, 48, 'Location'),
  (13, 37, 'Designation'),
  (0, 12, 'Name')]}
```

I will be now replacing the “\n” with simple spaces:

This is how the plain text looks like now:



Next, I will be removing leading and trailing white spaces from entity spans using regex and simple python code. This is the final output:

```
data[0][0]
```

```
'Govardhana K Senior Software Engineer  Bengaluru, Karnataka, Karnataka - Email m
Salesforce Developer Oracle 5 Years 2 Month • Core Java Developer Languages Core
WORK EXPERIENCE  Senior Software Engineer  Cloud Lending Solutions -  Bangalore,
Staff Consultant  Oracle -  Bangalore, Karnataka -  January 2014 to October 2016
ing  Adithya Institute of Technology -  Tamil Nadu  September 2008 to June 2012
K/b2de315d95905b68?isid=rex-download&ikw=download-top&co=IN  SKILLS  APEX. (Less
m/in/govardhana-k-61024944/  ADDITIONAL INFORMATION  Technical Proficiency:  Lang
r, NetBeans, Eclipse, SQL developer, PL/SQL Developer, WinSCP, Putty Web Technolc
ddleware: Web logic, OC4J Product FLEXCUBE: Oracle FLEXCUBE Versions 10.x, 11.x a
```

```
data[0][1]
```

```
{'entities': [[1749, 1755, 'Companies worked at'],
  [1696, 1702, 'Companies worked at'],
  [1417, 1423, 'Companies worked at'],
  [1356, 1793, 'Skills'],
  [1209, 1215, 'Companies worked at'],
  [1136, 1247, 'Skills'],
  [928, 932, 'Graduation Year'],
  [858, 889, 'College Name'],
  [821, 856, 'Degree'],
  [787, 791, 'Graduation Year'],
  [744, 750, 'Companies worked at'],
  [722, 742, 'Designation'],
  [658, 664, 'Companies worked at'],
  [640, 656, 'Designation'],
  [574, 580, 'Companies worked at'],
  [555, 572, 'Designation'],
  [470, 493, 'Companies worked at'],
  [444, 468, 'Designation'],
  [308, 314, 'Companies worked at'],
  [234, 240, 'Companies worked at'],
  [175, 198, 'Companies worked at'],
  [93, 136, 'Email Address'],
  [39, 48, 'Location'],
```

The entities of the data are now in lists, which makes them easier to iterate and use.

I will be transforming data to a more suitable shape depending on my choice of model for this project.

GitHub Repo link: https://github.com/NadaBelaidi/NLP-Resume-Extraction