

# **SOFTWARE DEVELOPMENT FOR ARTIFICIAL INTELLIGENCE**

## **FALL 2022 – Department of Computer Science, UNT**

**PROJECT NAME:** Resume Score Calculator using NLP

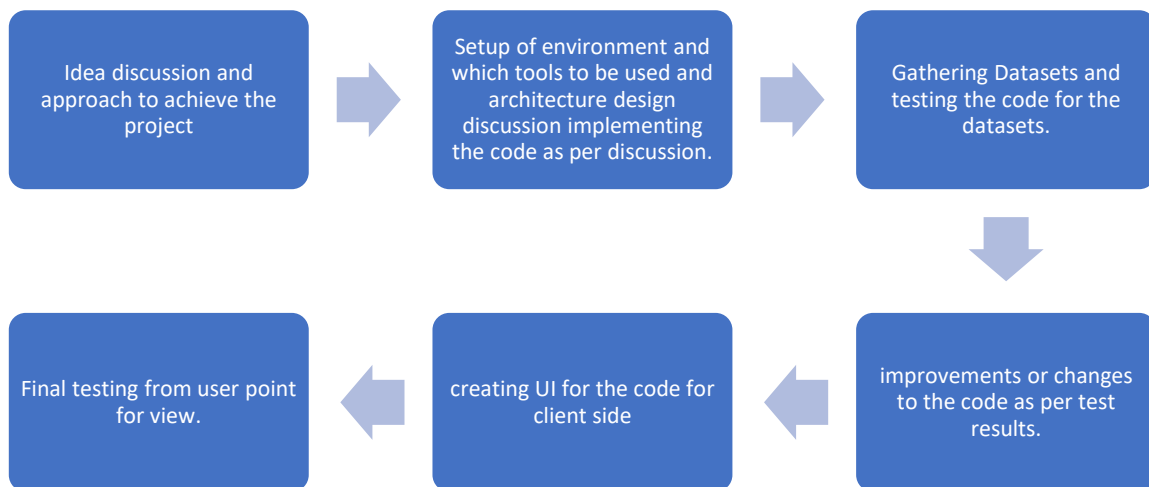
### **PARTICIPANTS:**

Team Size - 4

- 1) Yash Zauwar - 11439929
- 2) Goutham Pallapothu - 11519845
- 3) Veeranjanyulu Muppalla - 11532514
- 4) Yashwanth Gajula – 11524980

### **Workflow:**

- Idea discussion and approach to achieve the project.
- Setup of environment and which tools to be used and architecture design discussion implementing the code as per discussion.
- Each team member will contribute towards some part of the code, gather the dataset, testing, documenting the project progress, creating UI, setting it up as a web project.
- Connecting over meeting and work towards the goal of the project.



**Weekly meetings:** Every Wednesday 2:00 PM to 4:00 PM

**Location:** Zoom Meetings or in Person at Library.

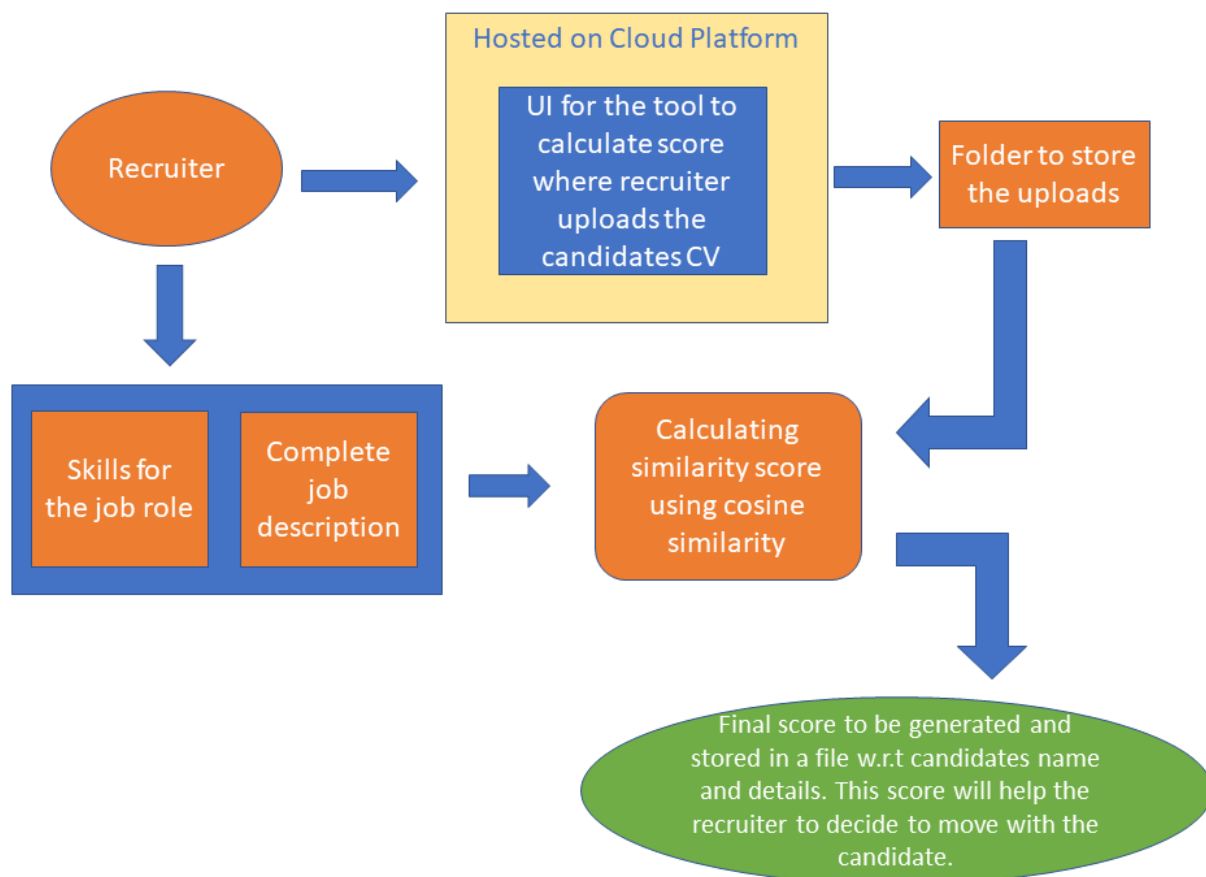
**Link to Project:** <https://github.com/YashZauwar/SoftwareDevelopmentforAI>

**Project Abstract:** By comparing a candidate's CV's details, such as their education, abilities, certifications, experience, and accomplishments, with the requirements of the post, it is possible to ascertain whether they match the requirements for the position. This process is known as resume screening. Resume screening is crucial to determine whether a candidate moves on to the next stage of the recruiting process or not, especially in instances where there are many applications.

We will be using few NLP techniques and calculate similarity score of the skills, job description and calculate the score for the recruiter to shortlist a candidate's profile. We will be achieving this with the help of few modules in python mentioned below/.

This project uses text mining and natural language processing algorithms to evaluate thousands of resumes impartially and quickly to identify the best candidate for a job vacancy based on thresholds, certain criteria, or scores.

### Project Design and Milestones:



### Project Milestones:

- 1) Gathering Datasets (Resumes, skills, job descriptions), project environment setup,
- 2) Developing code, applying cosine similarity methods in python,
- 3) Developing UI,
- 4) Deploying the application to cloud,
- 5) Testing,
- 6) Release.

**Programming Languages used:** Python

**Modules:** python modules like texthero, numpy, cleantext, pandas, pdf2image etc.,

**UI:** User interface will be developed using HTML, CSS, php, etc.,

**Code will be deployed in:** Azure Cloud, Flask programming.

### **Resources and Related Projects:**

1: <https://blog.apilayer.com/build-your-own-resume-parser-using-python-and-nlp/>

An excellent example of unstructured data is a resume. There is no standard resume format, therefore each resume has its own formatting, distinct text blocks, and even different category titles. It is unnecessary for me to highlight the difficulty of parsing multilingual resumes.

2: <https://www.geeksforgeeks.org/how-to-calculate-cosine-similarity-in-python/>

The cosine similarity between the two non-zero vectors is calculated. A vector is a NumPy signal array with only one dimension. In text analysis, the cosine similarity measure of similarity is frequently used to assess document similarity. To calculate the cosine similarity, we use the formula below.

We will be using some techniques from the above URLs and few internet resources as we progress in the project which will be referenced in respective project increments.

With the help of cosine similarity, similarity score will be calculated for the skill set of the candidate and from the sheet and job description provided by the recruiter.

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