



CYGNET.ONE

Cygnets One

Introduction

About the
Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web
Development

AI-Enabled HR Analytics

Kahan Jash

Malhar Shinde

Parth Parikh

Guided By: Komal Lamba

May 24, 2024



Introduction

CYGNET.ONE

Introduction

About the
Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web Development

Introduction



CYGNET.ONE

Introduction

About the
Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web

Development

About the Organization

Cygnet One Pvt.Ltd.

- Offers digital services, streamlined tax solutions and finance empowerment.
- Digital, Applications & Product Engineering Cloud Engineering
- Enterprise Applications AWS, Sales Force, Microsoft Cloud
- Data, Analytics, AI, IoT & Automation Data Virtualization, Data Visualization,, Data Mordenization



Introduction

CYGNET.ONE

Introduction

About the
Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web Development

Modules of the Project

- Resume Parsing model.
- Cultural Fit score.
- Employee Promotion Module.
- Employee Feedback Module
- An Integrated System to access the modules with AVP, Employee, Candidate, and HR as end users.



Resume Parsing

CYGNET.ONE

Introduction

About the
Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web
Development

Parsing reduces the manual processes in screening and saves time for recruiters who are responsible for finding most qualified candidates:

- 1 Extracting Important Information like Name, Email Address, Contact Number.
- 2 Identify skills from resumes by preprocessing text and matching them with a skills dataset, while also considering bi and tri grams for enhanced accuracy.
- 3 Preprocessed resume text for domain extraction, then evaluated Random Forest, SVM, Naïve Bayes, Logistic Regression for classification.
- 4 Choosing the best model which is Naïve Bayes. Defining the pipeline and saving the model with a 75:25 train - test split, getting an accuracy of 0.99 and a loss of 0.07.



Cultural Fit

CYGNET.ONE

Introduction

About the
Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web
Development

Culture fit refers to how compatible employees are with a company's culture, goals, and values.

```
keywords = """My work adds business value to customers.  
My work adds career value to fellow employees.  
My work adds social value to communities.  
My work shows my integrity.  
My work shows my team work and team spirit.  
My work shows my trustworthy quality.  
My work showcased digital transformation.  
My work shows my simplicity.  
My work shows my entrepreneurial spirit.  
I have good communication skills.  
I have good interpersonal skills.  
My work shows innovation.  
My work shows resilience.  
I am confident about my work.  
I have leadership qualities.  
My work always meets deadlines."""
```

Figure: Values of the company



Cultural Fit

CYGNET.ONE

Introduction

About the Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web Development

- 1** Text Preprocessing: Preprocess extracted text by removing HTML tags, URLs, white spaces, ".com", and stop words. Tokenize the cover letter and keywords using sentence tokenizer.
- 2** Embedding Creation: Utilize sentence transformers to create embeddings for cover letter screening, facilitating cosine similarity computation between extracted text and predefined keywords.
- 3** Through manual testing it is concluded that a similarity score of more than 0.4 is considered to be a good cultural fit for the organization.

The screenshot displays the HR Dashboard interface. At the top, there is a navigation bar with the CYGNET.ONE logo, a search bar containing "Search", and a user profile icon. Below the navigation bar, the main content area has a dark header titled "HR Dashboard". The main content is a table with the following columns:

Resume File Name	Cover Letter File Name	Name	Contact Info	Email	Domain	Work Experience	Skills	Cultural Fit	Upload Date	Result	Meets
Jugal_resume.pdf	braintree.pdf	JUGAL PATEL	8469479919	jugal2806@gmail.com	Data Science	Fresher	<ul style="list-style-type: none">data visualizationunreal enginecssjavahadooptableaudecision-makingopencvmachine learningmysqlhtmldeep learningdata-driven decision-makingc++database management	0.33	2024-05-03 17:15:42.059000	<button>Accept</button> <button>Reject</button>	<button>Schedule</button>

At the bottom of the dashboard, there is a footer with the text "127.0.0.1:5000/logout". The overall design is modern and professional, using a dark color scheme with light-colored text and icons.

Figure: HR Dashboard



Employee Feedback

CYGNET ONE

Introduction

About the
Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web
Development

- Reading the CSV and getting visuals regarding the star rating given by the employees.
- Merging textual columns (pros, cons, advice to management, and overall review) to create a new column, "Employee Summary," consolidating key insights. Subsequently, the original columns are dropped to streamline data clarity.
- Labelling the unlabeled data for sentiment analysis, TextBlob and polarity scores are employed to assess the sentiments of the merged text from "employee_summary." into Positive, neutral and negative categories.



Employee Feedback

CYGNET ONE

Introduction

About the Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web

Development

- An imbalance in sentiment distribution was observed, predominantly favoring positive sentiments. To mitigate this imbalance during model training, under sampling was employed.
- The text inputs were transformed into numerical representations using TF-IDF vectorization.
- The data was divided into a 75:25 train test split. A model named RVSGDC (an amalgamation of Logistic Regression, Support Vector Machine and Stochastic Gradient descent) where the best parameters were determined by hard voting.
- The model provides accuracy of 94% with precision and recall of 94% and 93% respectively.



Employee Feedback

CYGNET.ONE

Introduction

About the Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web

Development

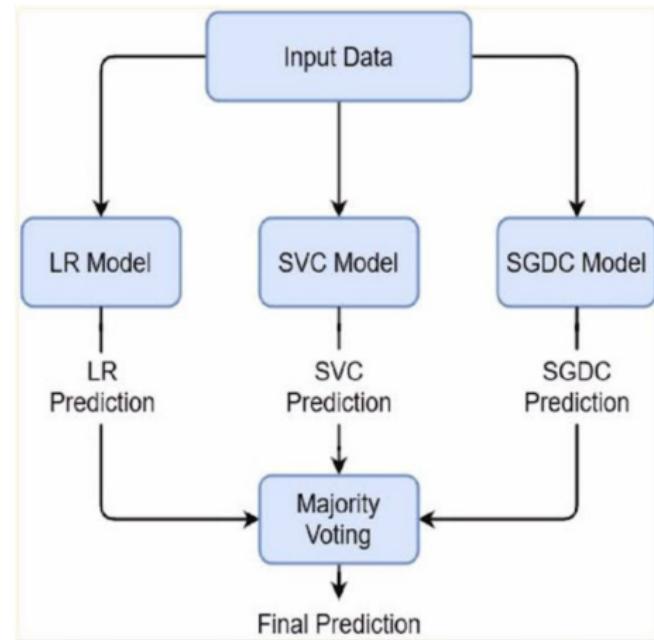


Figure: RVSGDC



Employee Promotion

CYGNET.ONE

Introduction

About the
Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web
Development

The dataset for employee promotion consists of the following features:

- employee_id
- department
- region
- education
- gender
- recruitment channel
- no_of_trainings
- age
- previous_year_rating
- length_of_service
- KPIs met
- Awards won



Employee Promotion

CYGNET.ONE

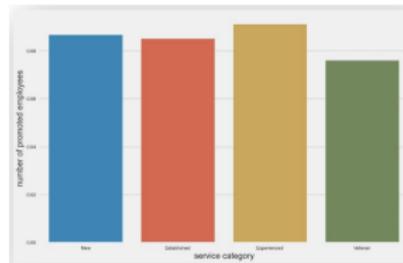
Introduction

About the Organization
Introduction

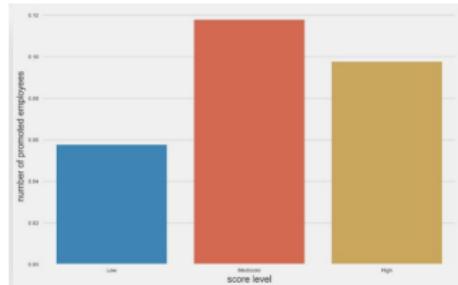
Modules

Resume Parsing
Cultural Fit
Employee Feedback
Employee Promotion

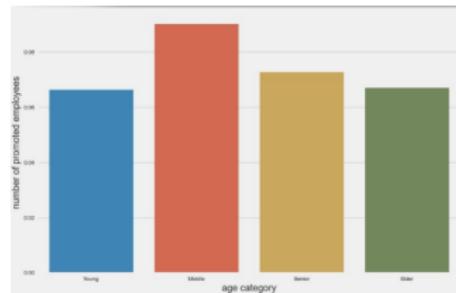
Web Development



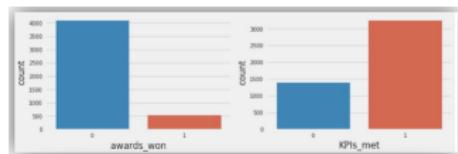
(a) Service Category.



(b) Score Level.



(c) Age.



(d) Awards and KPIs.



Employee Promotion

CYGNET ONE

Introduction

About the Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web Development

- Data Analysis was conducted so as to determine the importance of factors responsible for employee promotion.
- Through this analysis it was concluded that the factors important for determining promotion are KPIs met, Awards won, Total Score (avg. training score * no. of trainings) and Previous Year Ratings.
- Applying Min Max Scaling and Oversampling so as to balance the data and avoid information loss.
- Dividing the data into 80:20 train-test split and training the Gradient Boosting Classifier model on the data so as to obtain the classification report of the trained model.
- The model has an accuracy of 96%. The precision and recall of the model is 91% and 92% respectively.



Web Development

CYGNET.ONE

Introduction

About the Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web Development

Login

Candidate ID:

Enter candidate ID (e.g., C00001)

Password:

Enter Password

Login

Are you an employee? [Login here](#)

Login

Employee ID:

Enter ID (5 digits)

Password:

Enter Password

Login

Are you a candidate? [Login here](#)

(a) Candidate login.

(b) Employee Login.

Figure: Login Pages



Web Development

CYGNET.ONE

Introduction

About the Organization

Introduction

Modules

Resume Parsing

Cultural Fit

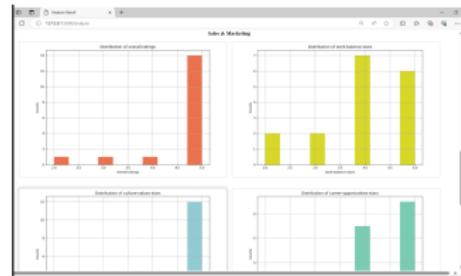
Employee Feedback

Employee Promotion

Web Development



(a) AVP Dashboard.



(b) Employee Feedback.



Web Development

CYGNET.ONE

Introduction

About the
Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web
Development

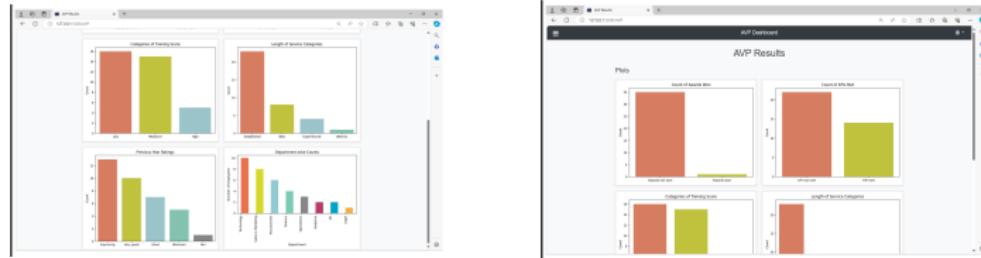


Figure: Employee Promotion Analysis



Web Development

CYGNET.ONE

Introduction

About the Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web Development

The screenshot shows a dark-themed HR Dashboard. At the top, there are tabs for 'Resumes File', 'Cover Letter file', 'Name', 'Contact Info', 'Email', 'Details', 'Work Experience', 'Skills', 'Cultural Fit', 'Upload Date', 'Reset', and 'Search'. Below these tabs, there is a table with one row of data. To the right of the table is a sidebar with a list of skills: resume, cover letter, name, contact info, email, details, work experience, cultural fit, upload date, reset, and search. At the bottom of the sidebar, there is a list of names: John Doe, Jane Smith, Michael Johnson, and others.

(a) HR Dashboard

The screenshot shows a search interface titled 'Reject Candidates' with a placeholder 'Please enter the search for rejection'. Below the search bar is a table with one row of data. To the right of the table is a sidebar with a list of names: John Doe, Jane Smith, Michael Johnson, and others. At the bottom of the sidebar, there is a list of names: John Doe, Jane Smith, Michael Johnson, and others.

(b) Reject Candidates

The screenshot shows a 'Schedule Meets' interface. At the top, there is a calendar for May 2024. Below the calendar is a dropdown menu with the following options: 'New', 'Edit', 'Delete', 'Import', 'Export', 'Print', 'Share', and 'Help'. A 'Create' button is located at the bottom left. A 'Search' input field is at the bottom center, and a 'Clear' button is at the bottom right.

(c) Schedule Meets





Web Development

CYGNET.ONE

Introduction

About the Organization

Introduction

Modules

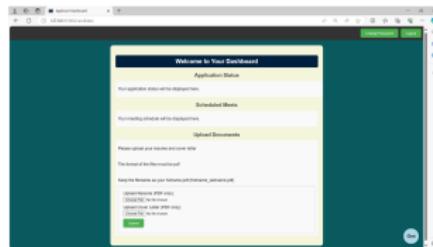
Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

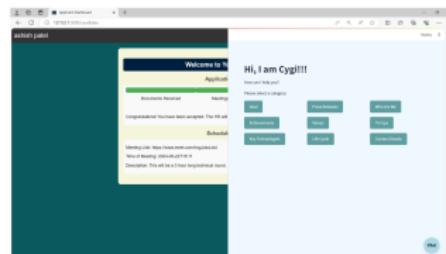
Web Development



(a) Candidate Dashboard



(b) Chatbot



(c) Chatbot





Web Development

CYGNET.ONE

Introduction

About the Organization

Introduction

Modules

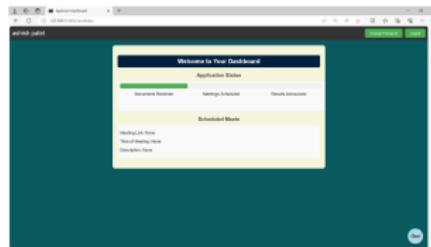
Resume Parsing

Cultural Fit

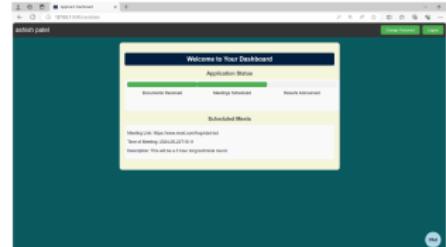
Employee Feedback

Employee Promotion

Web Development



(a) Application Status



(b) Meeting Scheduled



(c) Results Announced





Web Development

CYGNET.ONE

Introduction

About the Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web Development

Great work-life balance, supportive team culture, competitive salaries, and numerous opportunities for professional growth.

what are the cons?

Limited upward mobility in certain departments, occasional communication gaps, and sometimes lengthy decision-making processes.

Advice to management?

Enhance internal communication, streamline decision-making processes, and create more clear pathways for career advancement.

Summary

A supportive company with a strong culture and growth opportunities, but needs to improve internal communication and decision-making processes.

Overall Ratings:
1 2 3 4 5

Work Balance:
1 2 3 4 5

Culture Value:
1 2 3 4 5

Career Opportunity:
1 2 3 4 5

Company Benefit:
1 2 3 4 5

Senior Management:
1 2 3 4 5

Submit Feedback

(a) Employee Dashboard

Admin Dashboard

Current Employees

Employee ID	Name	Email	Role
60001	Jones	2000115@research.ac.in	Employee
60006	James Jones	200115@research.ac.in	Employee
60007	Samuel Lennard	sl123@gmail.com	Employee
60008	Rahul Shah	rahulshah99@gmail.com	ACP
60009	Saheed Shabir	sa123@gmail.com	HR
60012	Jones	rahulshah99@gmail.com	Employee

(b) Admin Dashboard

Admin Dashboard

Current Employees

Name	Email	Role
Jones	2000115@research.ac.in	Employee
James Jones	200115@research.ac.in	Employee
Samuel Lennard	sl123@gmail.com	Employee
Rahul Shah	rahulshah99@gmail.com	ACP
Saheed Shabir	sa123@gmail.com	HR
Jones	rahulshah99@gmail.com	Employee

Actions:

- Add Employee
- Delete Employee
- Edit Employee
- Add Candidate
- Edit Feedback Form



Web Development

CYGNET.ONE

Introduction

About the Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web Development

The screenshot shows a web-based application interface titled 'Add Employee'. It includes fields for Employee ID (set to 6000), Name (Doe John), Department (Operations), Designation (Asst.), Email (john.doe@gmail.com), and Password (*****). A 'Verify Phone Number' button is present at the bottom. The 'Phone Number' field is currently empty.

(a) Add Employee

The screenshot shows the same 'Add Employee' form as above, but with a success message from the server: '127.0.0.1:5000 says: Success! A new employee with emp_id: 60002' displayed above the 'OK' button. The 'Phone Number' field remains empty.

(b) Employee Verification

The screenshot shows the 'Add Employee' form again. This time, the server message reads '127.0.0.1:5000 says: No, this is not a paid employee.' The 'Phone Number' field is still empty.

(c) Employee Verification





Web Development

CYGNET.ONE

Introduction

About the Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web Development

Delete Employee				
Employee ID	Name	Designation	Email	Delete
00001	Jones	Employee	jones115@gmail.com	<button>Cancel</button> <button>Delete</button>
00005	Jones James	Employee	jones.james@gmail.com	<button>Cancel</button> <button>Delete</button>
00007	Samar Lewandowski	Employee	samar.lewandowski@gmail.com	<button>Cancel</button> <button>Delete</button>
00009	Rahul Shah	Employee	rahul.shah@gmail.com	<button>Cancel</button> <button>Delete</button>
00010	Saurabh Shah	Employee	saurabh.shah@gmail.com	<button>Cancel</button> <button>Delete</button>
00012	Jones	Employee	jones.jones@gmail.com	<button>Cancel</button> <button>Delete</button>
00013	Gaurav Shah	HRP	gaurav.shah@gmail.com	<button>Cancel</button> <button>Delete</button>

(a) Employee Dashboard

(b) Edit Employee

(c) Change Password





CYGNET.ONE

Introduction

About the
Organization

Introduction

Modules

Resume Parsing

Cultural Fit

Employee Feedback

Employee Promotion

Web Development

Thank you