

# THE FUTURE OF WORK: DATA ANALYSIS OF GLASSDOOR JOBS

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## INTRODUCTION

### 1.1 OVERVIEW

Job analysis is a systematic procedure to analyze the requirements for the job role and job profile. [Glassdoor is a website and online platform that provides information about jobs, salaries, and companies.](#) Job analysis is a systematic approach to defining the job role, description, requirements, responsibilities, evaluation, etc. It helps in finding out required level of education, skills, knowledge, training, etc for the job position. It also depicts the job worth i.e. measurable effectiveness of the job and contribution of job to the organization. Thus, it effectively contributes to setting up the compensation package for the job position.

Lack of analysis of Glassdoor jobs can result in limited understanding of job market trends, difficulty in finding relevant job opportunities, inability to attract and retain top talent, and lack of insight into company branding and reputation.

Understanding the data of different jobs provided by glassdoor can help businesses and personnel to analyze current market trends in hiring, packages offered, etc. Businesses need to understand the glassdoor jobs data in order to get valuable insights. Job analysis is a crucial step in validating all major personnel activities. Employers must be able to show that their screening tools and appraisals are actually related to performance on the job in question. Doing this, of course, requires knowing what the job entails, which in turn requires a competent job analysis. The ultimate goal is to gain insights and improve performance through data visualization techniques.

In this project we make analysis of Glassdoor jobs data, by creating the visualizations so that consumers of Glassdoor online platform can understand easily.

### 1.2 PURPOSE

The purpose of Glassdoor jobs data analysis is to gain valuable insights and make informed decisions related to the job market, companies, and job seekers. Glassdoor is a popular website that allows employees and former employees to anonymously review companies, share salary information, and provide insights into the interview process and workplace culture. The site also enables employers to post job openings and access a pool of potential candidates.

Data analysis of Glassdoor job-related information can serve several purposes:

- **Job Market Trends:** Analyzing job postings and user activity can provide valuable information about the current job market trends. It can help identify industries with high job demand, regions with increased hiring activity, and the popularity of specific job titles.
- **Salary Insights:** Glassdoor contains salary information shared by employees and job applicants. Analyzing this data can give a better understanding of salary ranges for different positions and industries. It can help employers set competitive salaries and assist job seekers in negotiating better compensation packages.

- **Candidate Analysis:** Employers can use Glassdoor data to understand what candidates are looking for in a job and what factors are essential to them when considering potential employers. This information can be valuable in tailoring job descriptions and recruitment strategies to attract the right talent.

Overall, Glassdoor jobs data analysis empowers employers, job seekers, and HR professionals with valuable information to make better-informed decisions in the job market, leading to more efficient hiring processes and improved employee experiences.

## LITERATURE SURVEY

### 2.1 EXISTING PROBLEM

- **Limited Academic Research:** Glassdoor, as a relatively new and unique data source, might not have been extensively studied in academic literature. This limited availability of research papers might make it challenging for researchers to find a substantial number of relevant and reliable studies.
- **Data Quality and Reliability:** The accuracy and reliability of user-generated content on Glassdoor, such as reviews and salary information, might be a concern. Researchers need to consider potential biases, fake reviews, and incomplete data when analyzing the information.
- **Lack of Standardization:** Glassdoor reviews and content might be in unstructured formats, making it difficult to standardize the data for analysis. Natural Language Processing (NLP) techniques may be required to preprocess and extract meaningful information.
- **Multimodal Analysis:** Glassdoor data comprises various types of information, including text reviews, numerical ratings, and company-provided content. Integrating and analyzing multimodal data can add complexity to the research.

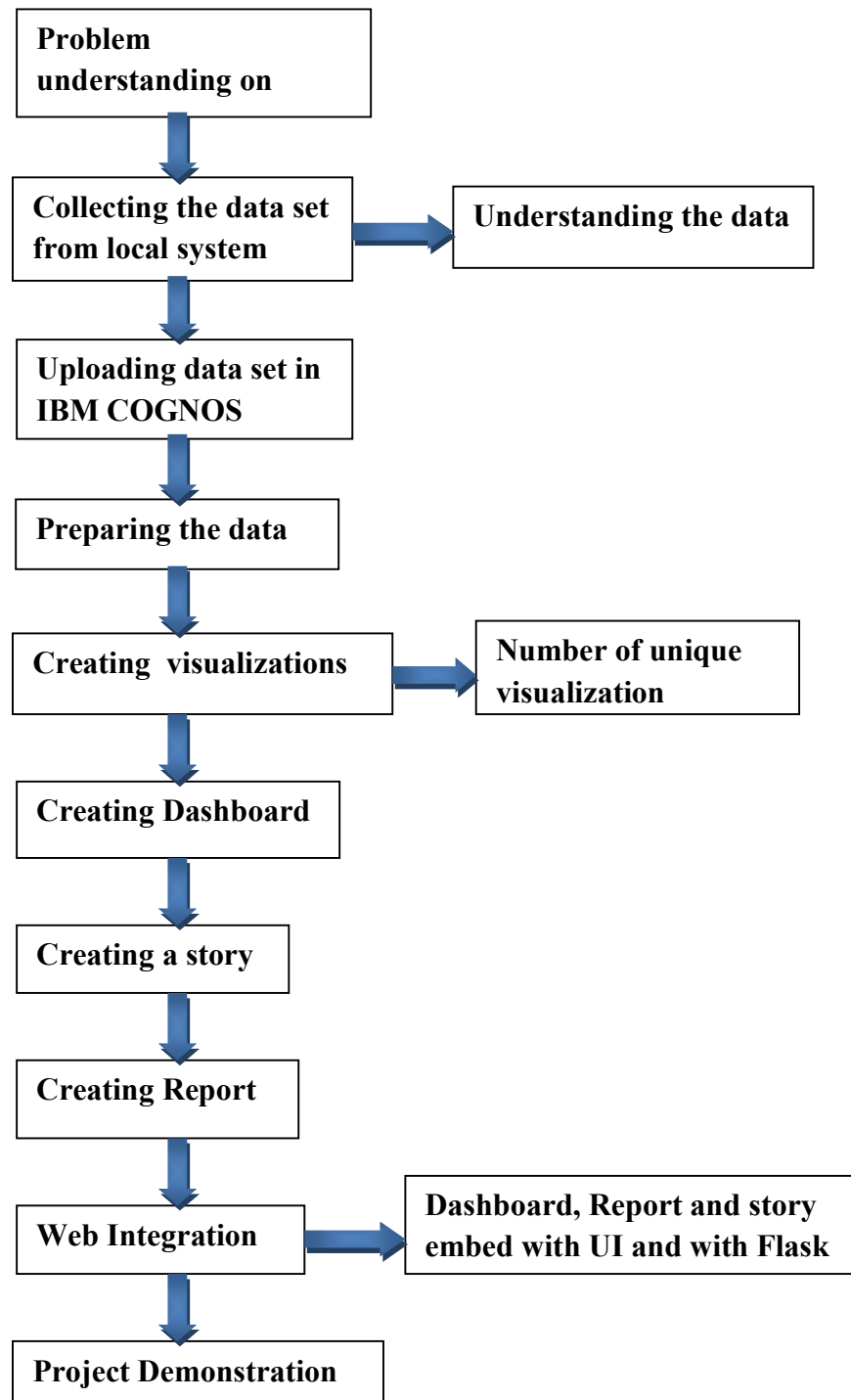
### 2.2 PROPOSED SOLUTION

- **Data Cleaning and Validation:** Apply rigorous data cleaning techniques to handle issues like fake reviews, incomplete data, and inconsistencies. Validation processes should be employed to ensure the accuracy and reliability of the collected information.
- **Multimodal Analysis:** Adopt advanced analytics techniques that can handle multimodal data, such as combining text analysis with numerical ratings and company-provided content for a more comprehensive analysis.
- **Transparency and Reproducibility:** Ensure transparency in research methodologies and data analysis procedures. Provide detailed documentation of data preprocessing steps, analysis methods, and code to enable reproducibility and facilitate future research.
- **Establish Ground Truth:** When possible, validate Glassdoor data against external ground truth data or conduct survey-based research to validate key findings and ensure the reliability of conclusions.
- **International Business Machines (IBM):** Utilize IBM COGNOS ANALYTICAL TOOL to preprocess and analyze unstructured text data from Glassdoor reviews. IBM can help with sentiment analysis, topic modeling, creating dash board, story report in the form of visualizations and extracting valuable insights from textual content.

As Glassdoor jobs data analysis continues to evolve, researchers must remain aware of the ever-changing landscape of user-generated content, data privacy laws, and the availability of new analytical techniques.

# THEORITICAL ANALYSIS

## 3.1 BLOCK DIAGRAM



## 3.2 HARDWARE AND SOFTWARE DESIGNING

### HARDWARE REQUIREMENTS



**Devices:** Laptop, computer and smartphone

### SOFTWARE REQUIREMENTS

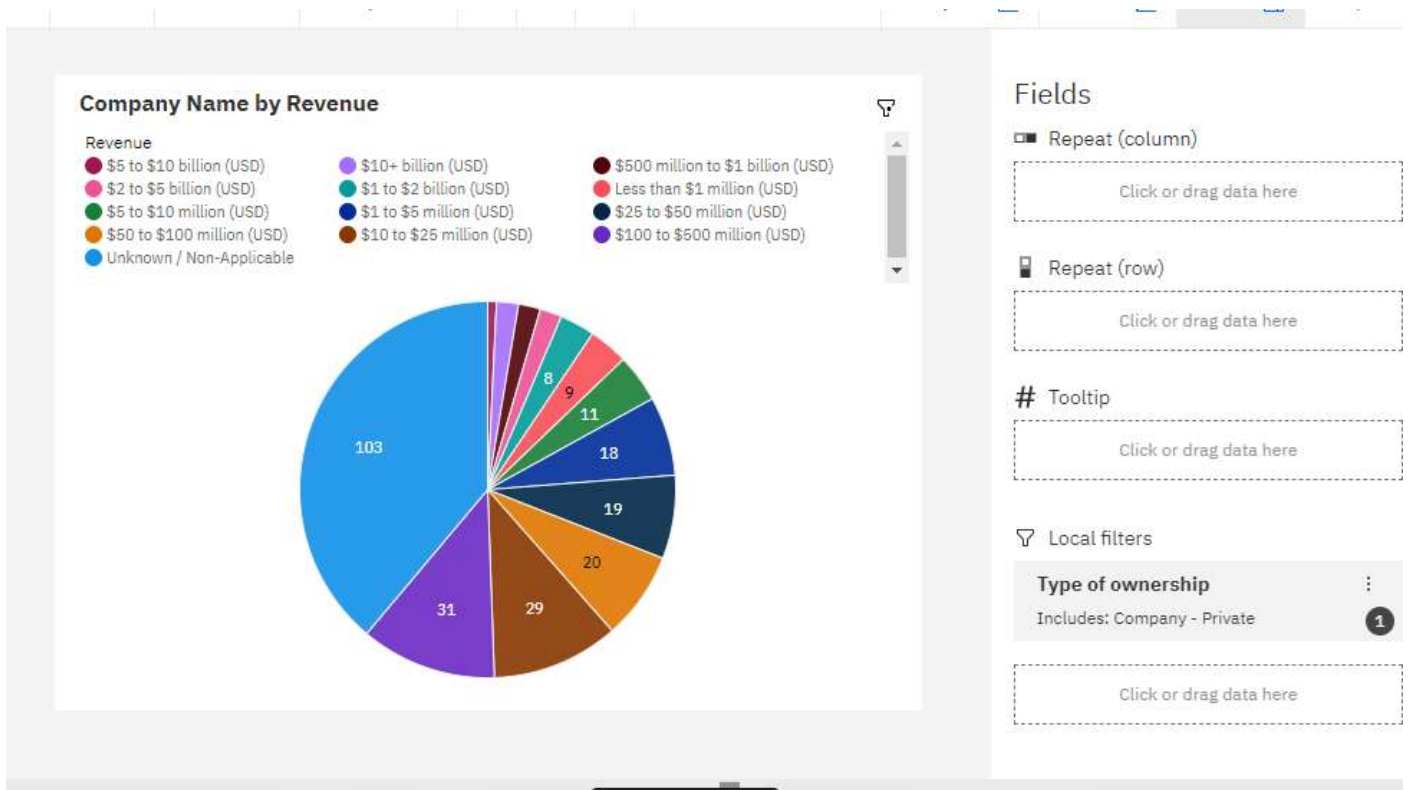
- IBM COGNOS ANALYTICAL TOOL (It is used for creating visualizations, creating Dashboard, Creating Report and Creating Story.)
- Anaconda Navigator.
- HTML Editing Tool.
- Spyder (It is used for editing HTML and creating web integration by using Flask file.)

## RESULT

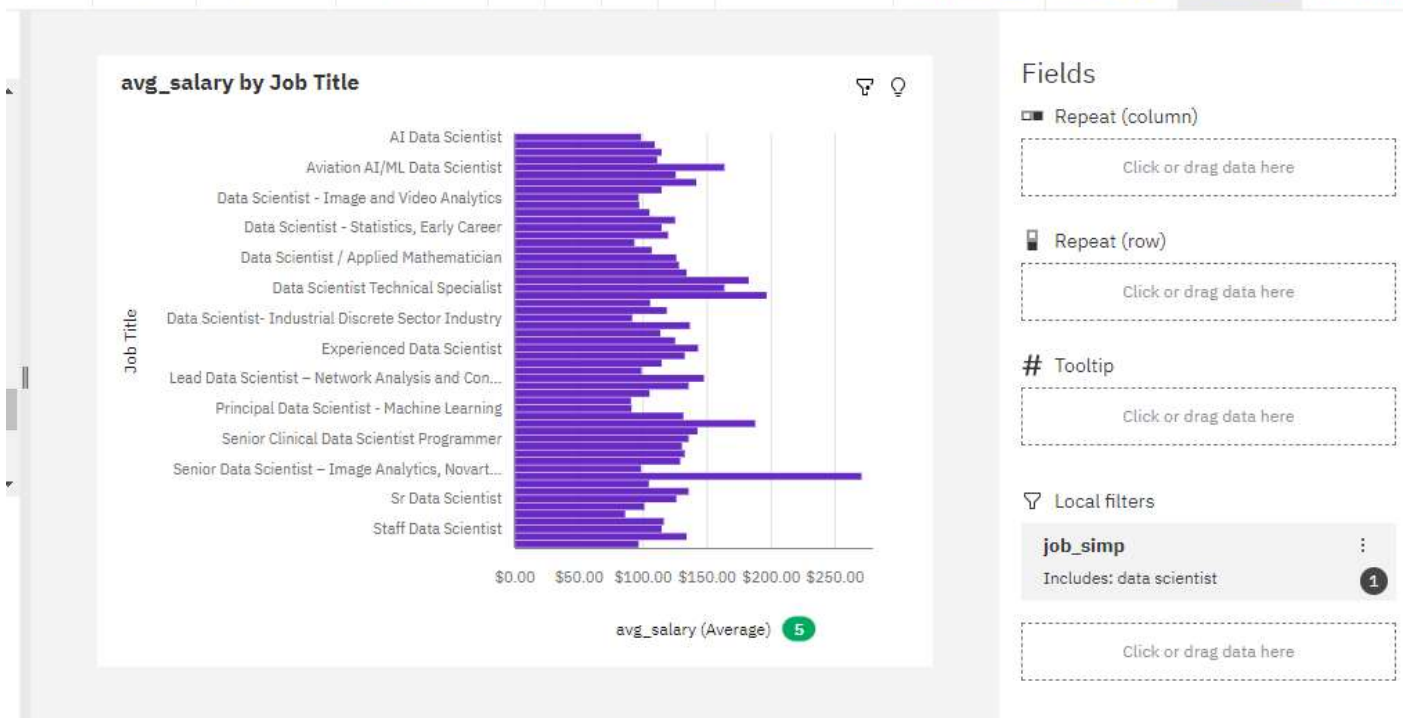
### ➤ NUMBER OF UNIQUE VISUALIZATIONS

1. What is salary trend for a particular job title.
2. No of companies belonging to different Sector.
3. How many companies belongs to the particular location.
4. what is the distribution of companies according to the type of owner.
5. Most popular sector on glassdoor for data science domain.
6. Top 10 rated jobs.
7. Which Industry is offering more job roles.
8. Which state is providing more opportunities.
9. Show job titles from different category.
10. Compare salary trend of different industry.
11. Top 10 highest paying jobs from different states.
12. what is the average salary of Job Title belonging from particular Location.
13. What is the revenue generated by companies that falls under particular category of ownership.
14. Salary trend for different job titles belonging to particular job category.
15. What is the rating & salary offered in particular job state.
16. Salary trend in different states for particular seniority level.

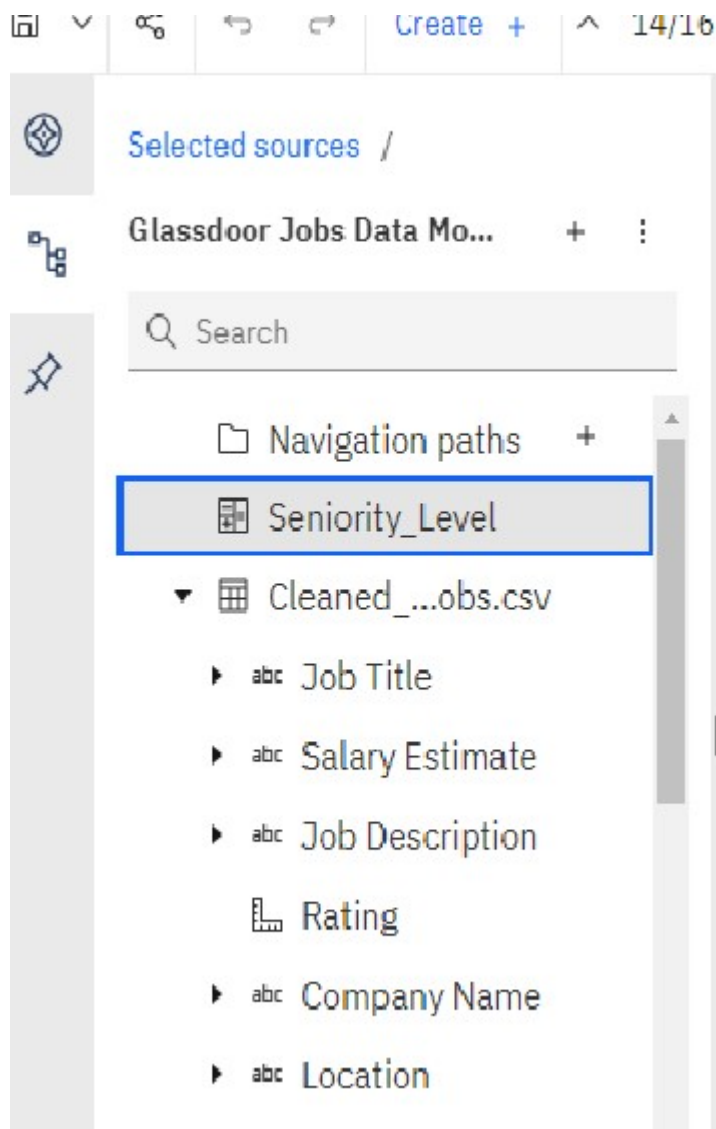
## ➤ UTILIZATION OF DATA FILTERS



4/16 ▾ Bar ▮ Related ▮ Compare ▮ Analytics ▮ Details ▮ Fields ▮ Properties



## ➤ NUMBER OF CALCULATION FIELDS



❖ Seniority Level is the calculated column and the calculation is in below given screenshot

Edit calculation

x

Name: Seniority\_Level

Components

Search

Seniority\_Level

Cleaned\_DS\_Jobs.csv

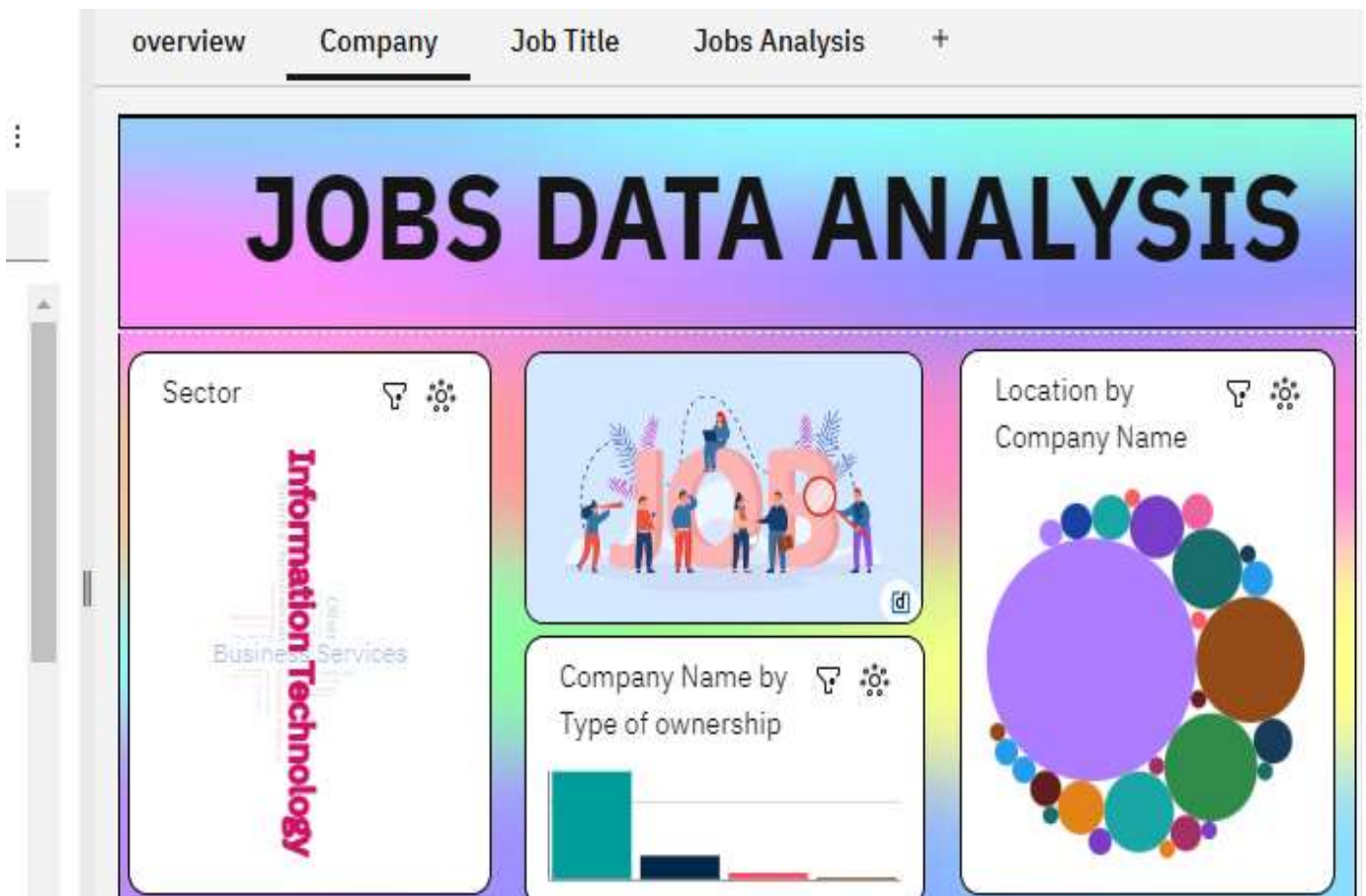
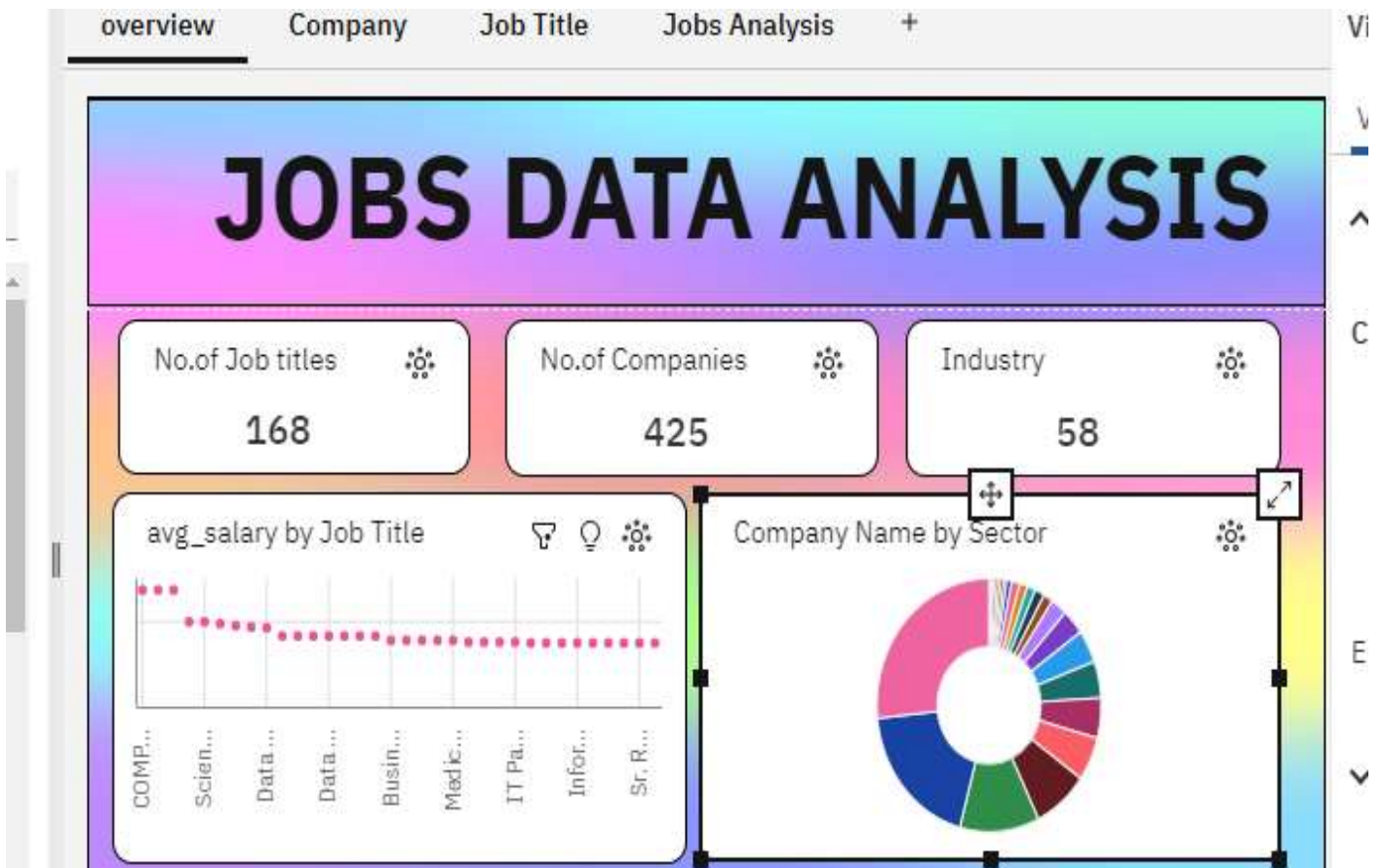
Expression

```
1 IF ( Cleaned_DS_Jobs_csv.min_salary >130 ) THEN ( 'Senior' ) ELSE ( IF ( Cleaned_DS_Jobs_csv.min_salary >70 and Cleaned_DS_Jobs_csv.min_salary <130 ) THEN ( 'Mid' ) ELSE ( 'Junior' ) )
```

14 v



➤ DASHBOARD



# JOBS DATA ANALYSIS

job\_state by Job Title



Rating by Job Title



Industry hierarchy colored by Industry and sized by Job Title



# JOBS DATA ANALYSIS

job\_simp and Job Title

job_simp	Job Title
analyst	Analytics - Busine...

avg\_salary by Job Title colored by Location



max\_salary by Job Title

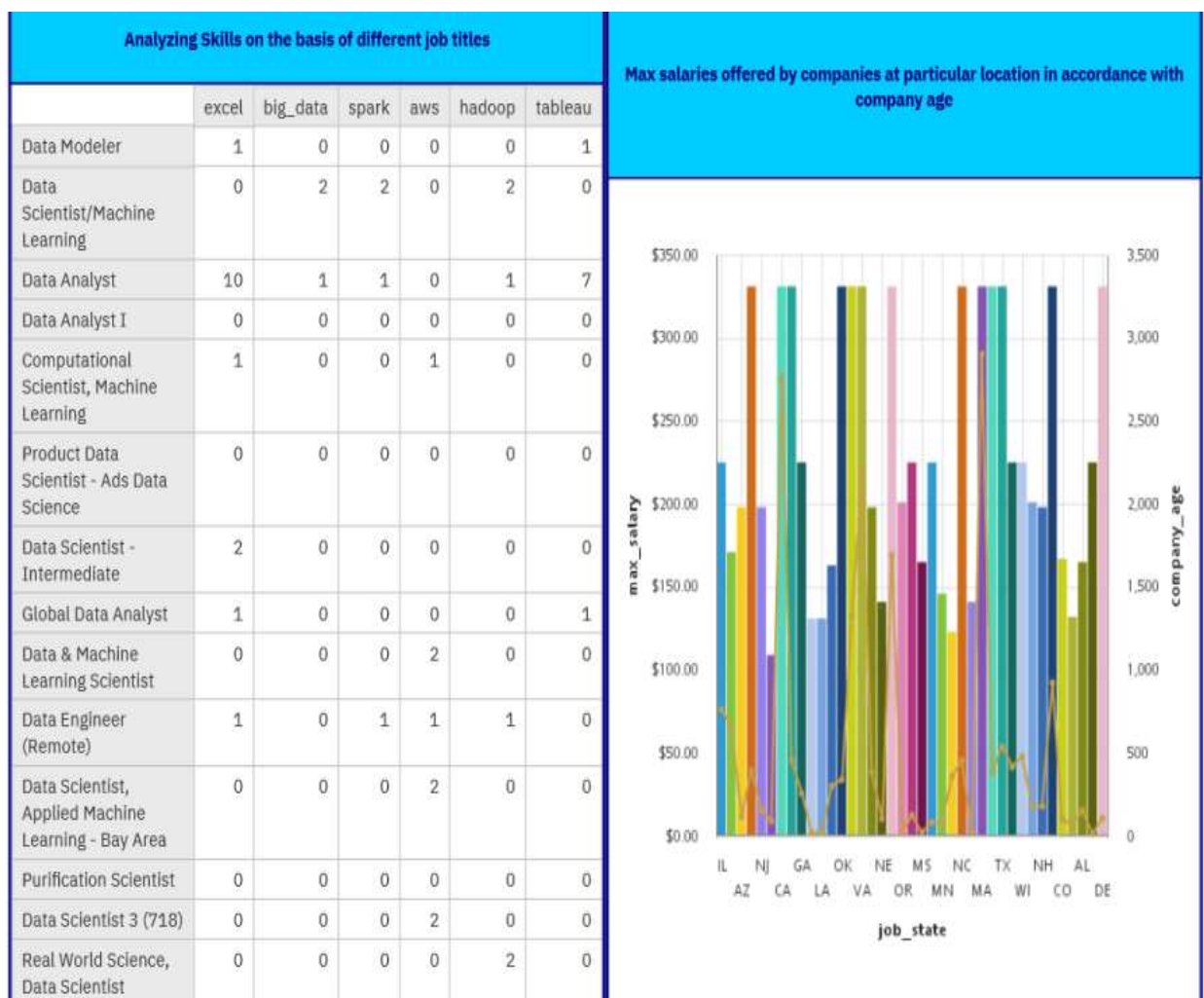


min\_salary by Industry



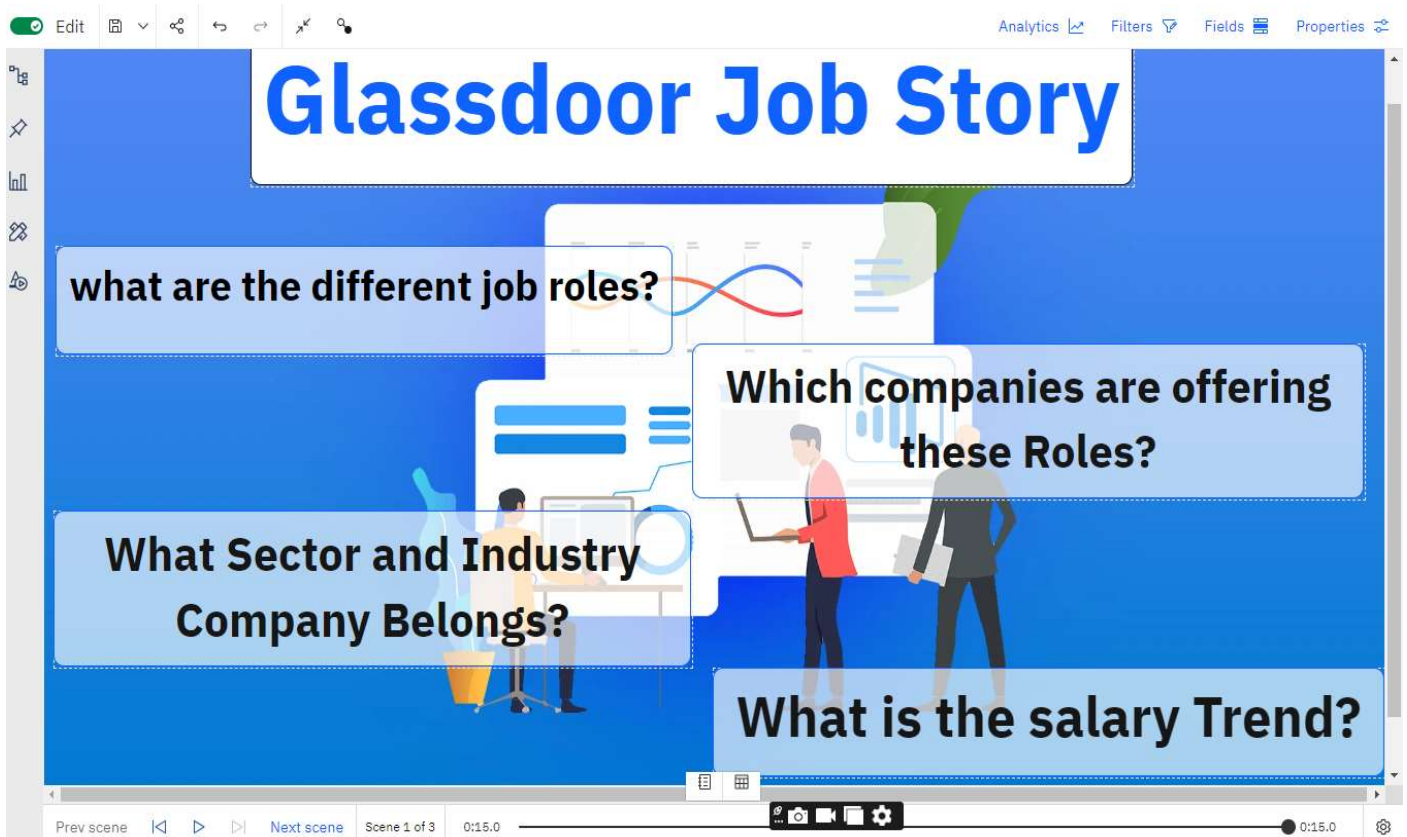


## ➤ REPORT



## ➤ STORY

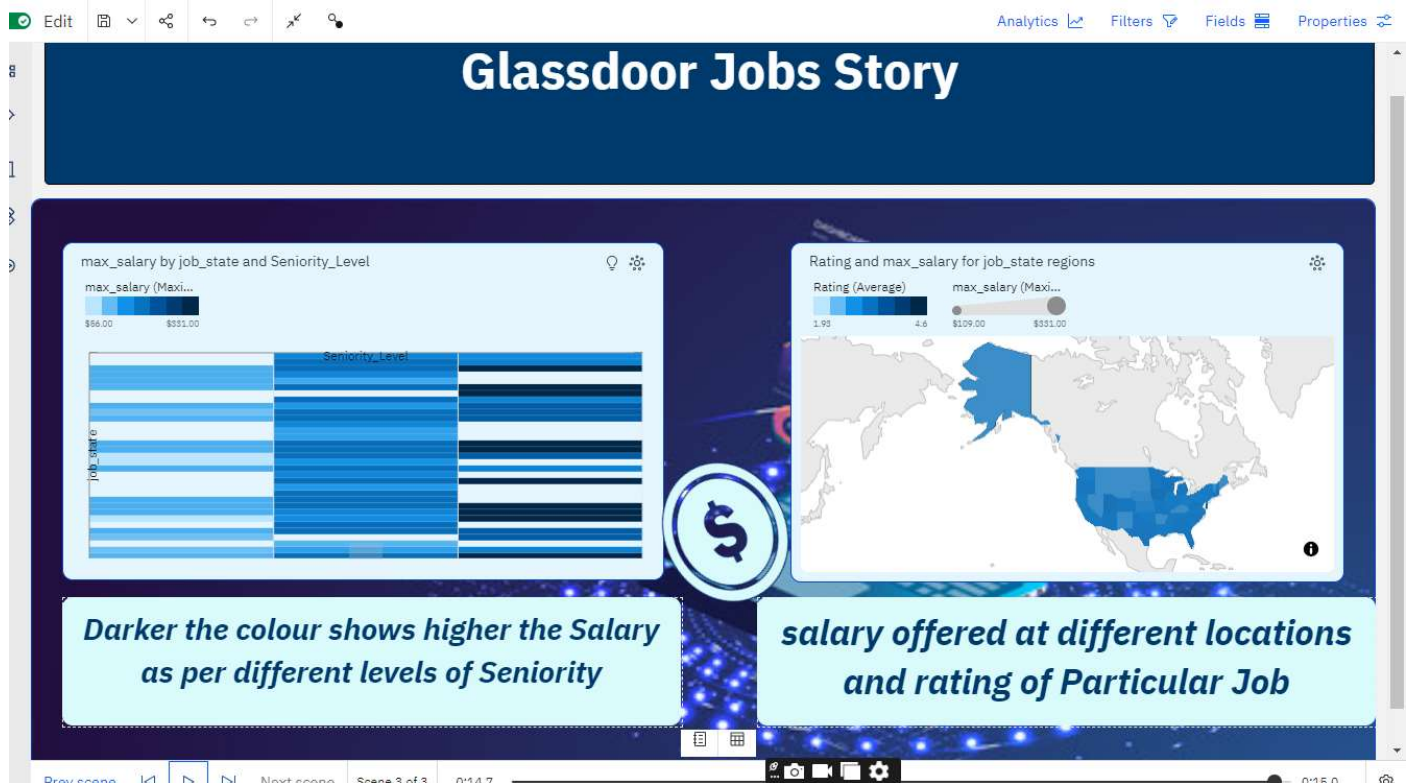
### Scene 1



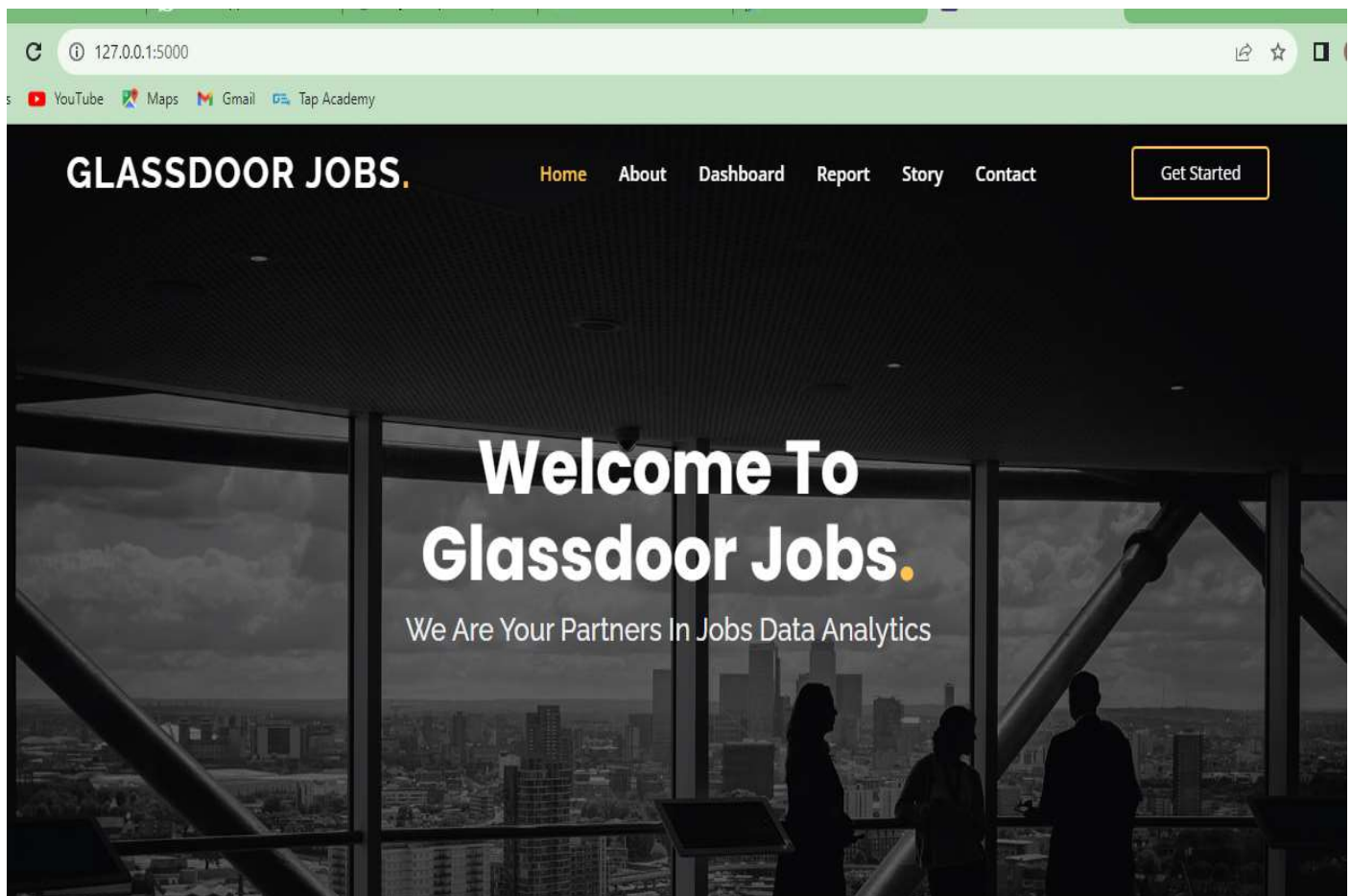
### Scene 2



### Scene 3



### ➤ WEB INTEGRATION



# ADVANTAGES AND DISADVANTAGES

## ADVANTAGES

- **Enhanced Job Matching:** Improved algorithms and features can lead to better job matching, helping job seekers find opportunities that align more closely with their skills, experience, and preferences.
- **Streamlined Application Process:** Some solutions may integrate with application tracking systems or allow one-click application features, simplifying the job application process and saving time for job seekers.
- **Salary Insights:** Access to real-time salary data and insights can empower job seekers to negotiate better compensation packages and make informed career decisions.
- **Increased Transparency:** Solutions that offer more comprehensive and accurate company reviews and ratings can provide job seekers with valuable insights into the work environment, culture, and overall satisfaction of current or former employees.
- **Customization and Personalization:** Advanced solutions may offer personalized job recommendations and tailored content based on individual preferences and past job search behavior.

## DISADVANTAGES

- **Data Accuracy and Reliability:** Proposed solutions heavily rely on user-generated content, which may lead to issues of data accuracy and authenticity. Biased or unfair reviews could mislead job seekers.
- **Lack of Representation:** Some companies may have disproportionately more reviews than others, leading to an uneven representation of different companies on the platform.
- **Cost and Accessibility:** Depending on the proposed solutions' business models, certain features or premium services might come at a cost, limiting access for certain job seekers.
- **Privacy Concerns:** More personalized job recommendations might require access to a job seeker's sensitive information, raising privacy concerns if not handled securely.
- **Algorithmic Bias:** Enhanced algorithms might inadvertently perpetuate biases present in the data they are trained on, leading to discriminatory job recommendations.

## APPLICATIONS

- **Company Reviews and Ratings:** Enhancing the review and rating system to ensure the authenticity and reliability of the feedback provided by current and former employees. This can help job seekers make better-informed decisions about potential employers.
- **Salary Insights and Transparency:** Providing real-time salary data and insights for different job positions and industries to help job seekers better understand compensation trends and negotiate fair salaries.
- **Company Culture and Benefits:** Providing detailed information about company culture, employee benefits, and work-life balance to give job seekers a comprehensive view of potential employers.
- **Application Tracking:** Integrating application tracking features that allow users to manage and keep track of their job applications directly through the platform.
- **Career Development Resources:** Offering resources and content to support job seekers in their career growth and professional development, such as articles, webinars, or courses.
- **Application Tracking:** Integrating application tracking features that allow users to manage and keep track of their job applications directly through the platform.
- **Skill Assessment and Training:** Partnering with relevant providers to offer skill assessments and training opportunities to job seekers, helping them upskill or reskill for specific roles.



- **Job Search Algorithm:** Improving the job search algorithm to provide more relevant and accurate job listings based on a user's skills, experience, and preferences. This can help job seekers find suitable opportunities more efficiently.
- **Personalized Job Recommendations:** Implementing machine learning algorithms to offer personalized job recommendations to users based on their job search history, interests, and qualifications.

## CONCLUSION

Glassdoor is a widely used online platform that provides job seekers with valuable insights into companies and job opportunities. It enables current and former employees to share their experiences, company reviews, and salary information, making it easier for job seekers to make informed decisions about potential employers. The platform has been instrumental in promoting transparency in the job market and empowering individuals with data-driven information to navigate their career paths more effectively.

The proposed solutions for Glassdoor jobs aim to enhance the platform's functionality and user experience further. Advancements in algorithms can lead to improved job matching, personalized job recommendations, and streamlined application processes. By providing real-time salary insights and diversity metrics, job seekers can make more informed choices when considering job offers, ensuring fair compensation and seeking inclusive work environments.

However, challenges remain, including ensuring the authenticity and reliability of user-generated content and mitigating algorithmic biases. Striking a balance between personalization and data privacy is crucial to protect users' sensitive information while delivering a tailored experience.

In conclusion, Glassdoor has revolutionized the job search landscape by offering transparency and valuable information to job seekers. Proposed solutions have the potential to further enhance the platform's capabilities, providing a more seamless and personalized job search experience. As technology continues to evolve, it is essential for Glassdoor and similar platforms to adapt, address challenges, and maintain their commitment to empowering job seekers in their career journeys.

## FUTURE SCOPE

- **AI-Driven Job Matching:** Implementing more sophisticated artificial intelligence algorithms to improve job matching based on a user's skills, preferences, and career goals. This can lead to more accurate and relevant job recommendations for each individual.
- **Sentiment Analysis:** Developing sentiment analysis tools to gauge the emotional tone of reviews and provide job seekers with insights into overall employee satisfaction and sentiments towards a company.
- **Enhanced Company Profiles:** Offering more comprehensive company profiles with detailed information about corporate social responsibility, employee benefits, and opportunities for career growth.
- **Skills Assessments:** Integrating skills assessment tools to help job seekers showcase their abilities and match them with suitable job openings based on their skill set.
- **Virtual Reality (VR) Company Tours:** Providing virtual company tours to job seekers, allowing them to experience a company's workplace and culture before applying.
- **Real-time Job Market Trends:** Offering real-time data on job market trends, including demand for specific skills, industry outlooks, and salary fluctuations.
- **In-Platform Networking:** Facilitating professional networking within the platform, enabling job seekers to connect with employees from target companies and expand their professional circles.
- **Enhanced Mobile Experience:** Optimizing the platform for mobile devices, considering that an increasing number of users access job search platforms via smartphones and tablets.
- **Personalized Learning Resources:** Curating learning resources and recommending relevant courses or training materials based on a user's career interests and aspirations.



- **Career Path Planning:** Providing personalized career path planning tools and insights to help job seekers set and achieve their long-term career goals.
- **Global Expansion:** Expanding the platform's reach to more countries and regions, providing localized content and job opportunities worldwide.
- **Blockchain for Credential Verification:** Exploring the use of blockchain technology to enable secure and transparent verification of job seekers' qualifications and credentials.
- **Data Privacy and Security:** Continuously enhancing data privacy measures to protect users' personal information and ensure the safe handling of sensitive data.
- **Career Support and Mentoring:** Introducing features to connect job seekers with mentors or career advisors who can provide guidance and support throughout their job search journey.