Analytics Tool For Placements

PROJECT REPORT

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Repository Link:

https://github.com/Sri2413/Analytics-Tool-for-Placements

Table of Contents

S.No	TOPIC	PAGE NO
1	INTRODUCTION	
	• 1.1 Overview	
	1.2 Purpose	
2	LITERATURE SURVEY	
3	IDEATION & PROPOSED SOLUTION	
	3.1 Empathy Map Canvas	
	3.2 Ideation & Brainstorming	
4	REQUIREMENT ANALYSIS	
	4.1 Functional requirement	
	4.2 Non-Functional requirements	
5	PROJECT DESIGN	
	5.1 Data Flow Diagrams & User Stories	
6	PROJECT PLANNING & SCHEDULING	
	6.1 Technical Architecture	
7	CODING & SOLUTIONING	
8	RESULTS	
	8.1 Output screenshots	
9	ADVANTAGES & DISADVANTAGES	
	9.1 Advantages	
	9.2 Disadvantages	

10	CONCLUSION
11	FUTURE SCOPE
12	APPENDIX
	12.1 Source code
	12.2 Github & Project Demo link
	• 12.3 Project Demo link

1. INTRODUCTION

1.1 Overview

An analytics tool for placements is a software solution designed to help educational institutions, career services departments, and employers analyze and optimize the process of placing students or job candidates in suitable positions within the workforce. This tool leverages data and analytics to provide valuable insights and streamline the entire placement process.

The tool gathers data from various sources, including student records, job postings, employer information, and performance metrics. It can integrate with student information systems, job portals, and other relevant data sources to compile a comprehensive database for analysis.

1.1 Purpose

An analytics tool for placements plays a pivotal role in today's competitive job market. It assists educational institutions in improving their students' job placement rates and helps employers make more informed hiring decisions. It enables students and job seekers to find the right career opportunities that match their skills and aspiration.

2.LITERATURE SURVEY

A literature survey for an analytics tool for placements involves reviewing existing academic and industry literature to gain insights into the development, applications, and impact of such tools. Here are some key themes and topics that you might explore in your literature survey.

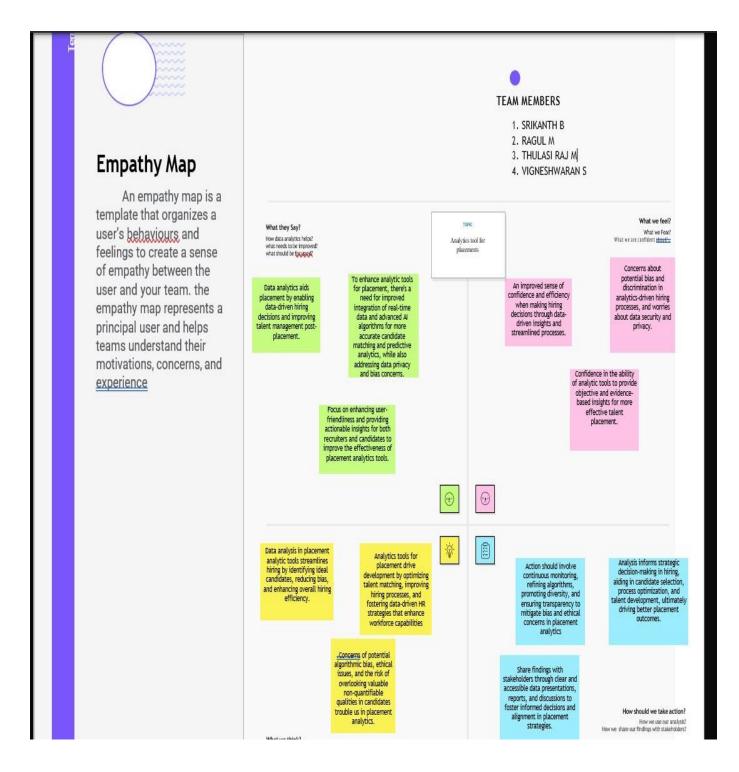
Start with an overview of the field of placement analytics. Identify key terms, definitions, and concepts. Look for articles or books that introduce the need for analytics tools in job placement and career services.

Investigate the historical development of placement analytics tools. Explore how these tools have evolved over the years, and identify milestones in their development. Has technology played a significant role in shaping these tools? Explore the features and functionality of analytics tools for placements. Investigate how these tools collect, process, and analyze data. What types of data are commonly used, and how do these tools provide insights and recommendations?

Look for case studies or research articles that demonstrate how placement analytics tools have been used in educational institutions, career services departments, and organizations. Examine specific examples of successful implementations and their outcomes. Investigate how these tools integrate with various data sources, such as student information systems, job portals.

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas



3.2 Ideation & Brainstorming

Person 1

Gather Consistent Data

Develop Report for Salary Generate
Story for the
Different
Analysis

Person 2

Make sure the data is clean and right

Report and document should be error free

The final output should must integrate with flask

Person 3

Create a interactive dashboard

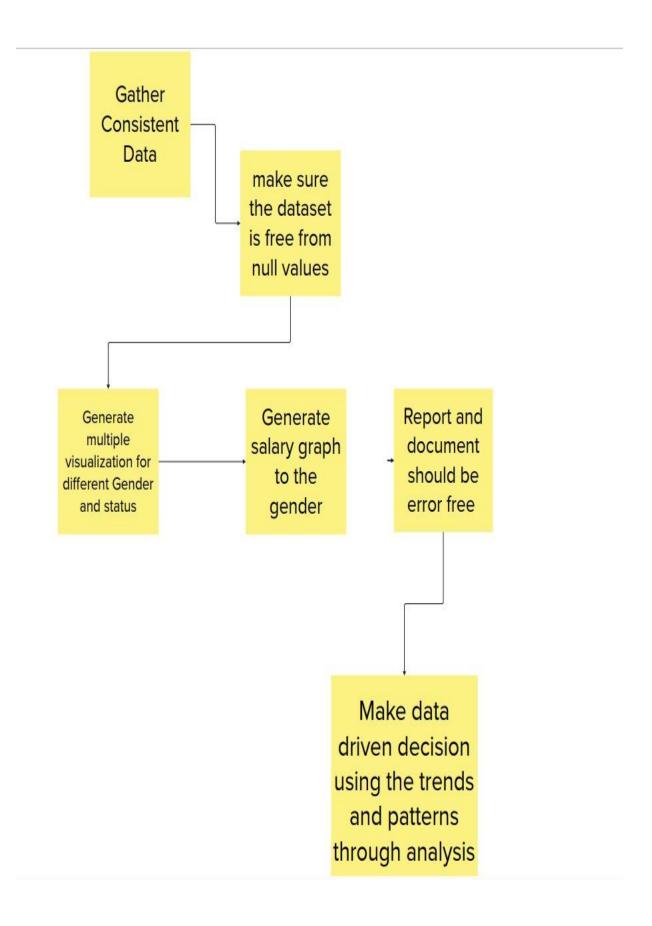
Generate multiple visualization for different Gender and status Generate salary graph to the gender

Person 4

Generate graph for the ssc_b to the status

Draw the bar graph for the hsc_b to the status

Generate Bar chart for the Company name to the type of Ownership



4. REQUIREMENT ANALYSIS

4.1 Functional requirement

Functional requirements for an analytics tool for placements outline the specific features, capabilities, and behaviors that the tool must have to fulfill its intended purpose effectively. These requirements help guide the development and implementation of the tool. Below are some essential functional requirements for an analytics tool for placements:

1. User Authentication and Access Control:

- Users should have secure login credentials.
- Role-based access control to restrict access to authorized personnel (e.g., students, career counselors, employers).

2. User Profiles:

- Ability for users to create and manage profiles with relevant information, including education, skills, preferences, and career goals.
- Support for students, alumni, career services staff, and employers to maintain their profiles.

3. Data Integration:

- Capability to integrate with various data sources, including student information systems, job databases, and employer databases.
- Real-time or scheduled data synchronization to ensure the most up-to-date information.

4. Job Posting and Management:

• Posting and updating job listings by employers.

- Advanced job search and filtering options for students.
- Application submission and tracking.

5. Data Analytics and Reporting:

- Data analytics and visualization tools to track placement performance and trends.
- Customizable reports and dashboards for users to view key placement metrics.
- Predictive analytics to forecast future job market trends.

6.Data Sources:

• Determine where you'll source your data, such as universities' placement records, student profiles, and employer data.

7. Key Metrics:

• Define the critical metrics that the tool should track, like job placement rates, salary data, industry trends, and geographic hotspots.

8. Visualization and Dashboards:

• Create intuitive and informative dashboards to present data. Consider charts, graphs, and interactive elements.

Search and Filter Functionality:

- Allow users to search for specific programs, universities, or job types.
- Implement filters like location, salary, industry, and employment duration.

4.2 Non-Functional requirements

Non-functional requirements for an analytics tool for placements define the qualities and attributes that affect the overall performance, usability, security, and scalability of the tool. These requirements are essential for ensuring that the tool not only functions correctly but also meets the desired standards and user expectations. Here are some non-functional requirements for an analytics tool for placements.

4.2.1 Performance:

- Response Time: The tool should provide quick response times for data retrieval, analytics, and user interactions to ensure a smooth user experience.
- Scalability: The tool should scale gracefully to accommodate growing user bases and data volumes.
- Load Handling: It should handle concurrent user access, especially during peak usage periods, without degradation in performance.

4.2.2. Reliability:

- The tool should be highly reliable, with minimal downtime or service interruptions.
- It should have a disaster recovery plan in place to ensure data integrity in case of system failures or data breaches.

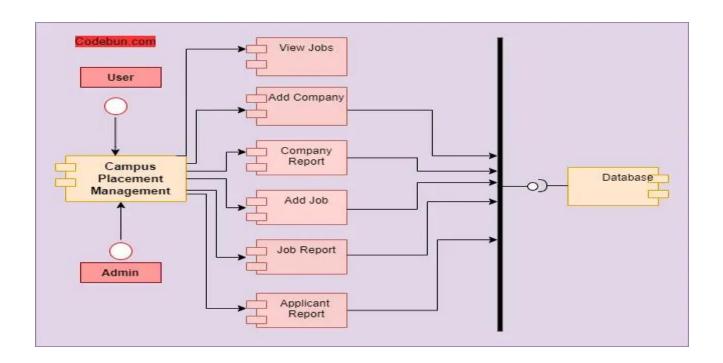
4.2.3. Security:

• Data Security: Protect sensitive user data and ensure compliance with data protection regulations. Encrypt data both in transit and at rest.

- Access Control: Implement robust access controls, including user authentication and authorization, to ensure that only authorized individuals can access specific data and functionality.
- Audit Trails: Maintain detailed audit logs to track user activities, changes, and security incidents.
- Vulnerability Assessment: Regularly assess the tool for vulnerabilities and apply security patches and updates as necessary

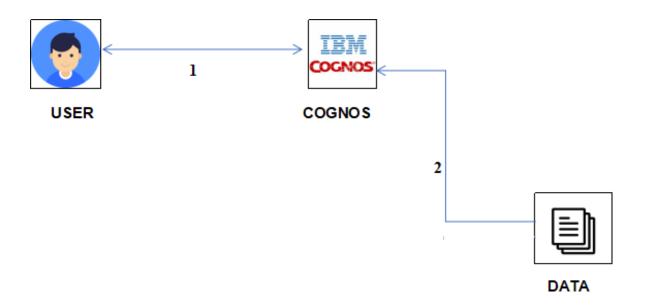
5. PROJECT DESIGN

5.1 Data Flow Diagrams & User Stories:



6. PROJECT PLANNING & SCHEDULING

6.1 Technical Architecture:



7. CODING & SOLUTIONING

```
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="utf-8">
 <meta content="width=device-width, initial-scale=1.0"</pre>
name="viewport">
 <title>PLACEMENT ANALYSIS Bootstrap Template - Index</title>
 <meta content="" name="description">
 <meta content="" name="keywords">
 <!-- Favicons -->
 k href="https://inurture.co.in/jagannath-university/jagannath-
college-admissions/imgs/icons/placement%20support.png" rel="icon">
 <link href="https://inurture.co.in/jagannath-university/jagannath-</pre>
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touch-icon">
 <!-- Google Fonts -->
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href="https://fonts.googleapis.com/css?family=Open+Sans:300,300i,400,
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0,700i|Poppins:300,300i,400,400i,500,500i,600,600i,700,700i"
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```

```
<!-- Vendor CSS Files -->
 <link href="static/assets/vendor/aos/aos.css" rel="stylesheet">
 k href="static/assets/vendor/bootstrap/css/bootstrap.min.css"
rel="stylesheet">
 k href="static/assets/vendor/bootstrap-icons/bootstrap-icons.css"
rel="stylesheet">
 <link href="static/assets/vendor/boxicons/css/boxicons.min.css"</pre>
rel="stylesheet">
 <link href="static/assets/vendor/glightbox/css/glightbox.min.css"</pre>
rel="stylesheet">
 k href="static/assets/vendor/remixicon/remixicon.css"
rel="stylesheet">
 k href="static/assets/vendor/swiper/swiper-bundle.min.css"
rel="stylesheet">
 <!-- Template Main CSS File -->
 <link href="static/assets/css/style.css" rel="stylesheet">
</head>
<body>
<header id="header" class="fixed-top ">
<div class="container d-flex align-items-center justify-content-lg-</pre>
between">
   <h1 class="logo me-auto me-lg-0"><a
href="index.html">PLACEMENT
ANALYSIS<span>.</span></a></h1>
```

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img src="Static/assets/img/logo.png" alt="" class="img-fluid"></a>--
   <nav id="navbar" class="navbar order-last order-lg-0">
    \langle ul \rangle
     <a class="nav-link scrollto active"</li>
href="#hero">Home</a>
     <a class="nav-link scrollto" href="#about">About</a>
     <a class="nav-link scrollto"</li>
href="#services">DashBoard</a>
     <a class="nav-link scrollto"</li>
href="#portfolio">StoryBoard</a>
     <a class="nav-link scrollto" href="#team">Team</a>
     class="dropdown"><a href="#"><span>Drop Down</span> <i
class="bi bi-chevron-down"></i></a>
       ul>
        <a href="#">Drop Down 1</a>
        cli class="dropdown"><a href="#"><span>
   <a href="#about" class="get-started-btn scrollto">Get Started</a>
  </div>
 </header>
 <section id="hero" class="d-flex align-items-center justify-content-</pre>
center">
  <div class="container" data-aos="fade-up">
```

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     <h2></h2>
    </div>
   </div>
 </section
  <section id="about" class="about">
   <div class="container" data-aos="fade-up">
    <div class="row">
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       </section>
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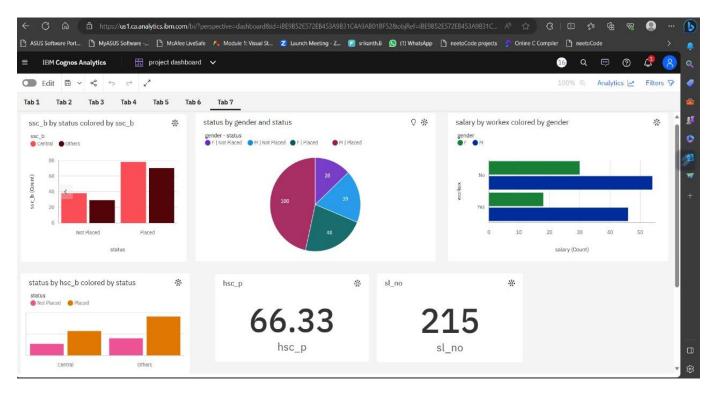
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alt=""></div>
       <div class="swiper-slide"><img</pre>
src="static/assets/img/clients/client-2.png" class="img-fluid"
alt=""></div>
       <div class="swiper-slide"><img</pre>
src="static/assets/img/clients/client-3.png" class="img-fluid"
alt=""></div>
    <div class="swiper-slide"><img src="static/assets/img/clients/client-</pre>
4.png" class="img-fluid" alt=""></div>
       <div class="swiper-slide"><img</pre>
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alt=""></div>
       <div class="swiper-slide"><img</pre>
src="static/assets/img/clients/client-6.png" class="img-fluid"
alt=""></div>
       <div class="swiper-slide"><img</pre>
src="static/assets/img/clients/client-7.png" class="img-fluid"
alt=""></div>
       <div class="swiper-slide"><img</pre>
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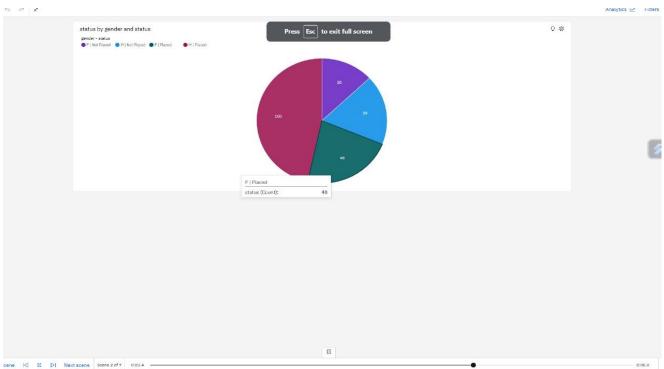
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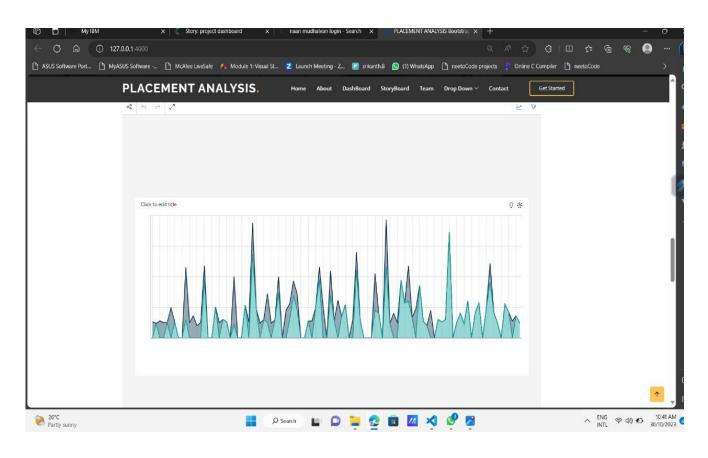
```
alt=""></div>
      </div>
      <div class="swiper-pagination"></div>
     </div>
   </div>
  </section><!-- End Clients Section -->
  <!-- ===== Features Section ====== -->
  <section id="features" class="features">
   <div class="container" data-aos="fade-up">
     <div class="row">
      <div class="image col-lg-6"</pre>
style='backgroundurl("https://bestcollegesinindia.in/wp-
content/uploads/2021/10/Campus-placement.jpeg"); data-aos="fade-
right"></div>
      <div class="col-lg-6" data-aos="fade-left" data-aos-delay="100">
       <div class="icon-box mt-5 mt-lg-0" data-aos="zoom-in" data-</pre>
aos-delay="150">
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 <script
```

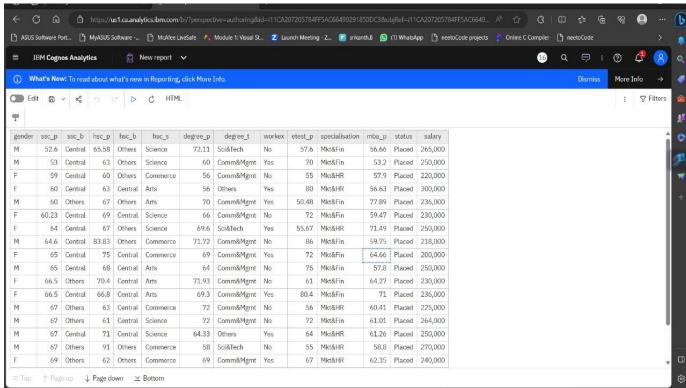
8.RESULTS

8.1. Output Screenshots:









9. ADVANTAGES & DISADVANTAGES

9.1.ADVANTAGES:

- 1. Data-Driven Decision Making: Analytics tools provide valuable insights and data-driven recommendations, allowing educational institutions and employers to make more informed decisions about student placements. This can lead to improved outcomes for both students and organizations.
- 2. Personalized Career Guidance: These tools can offer personalized career advice and recommendations to students based on their skills, qualifications, and preferences. This helps students make more relevant career choices.
- 3. Efficiency and Automation: Automation features streamline administrative tasks such as resume submissions, interview scheduling, and communication with employers. This reduces manual effort and saves time for career services staff and students.
- 4. Improved Placement Rates: By using historical data and analytics, institutions can identify trends and strategies that lead to higher placement rates. This helps them refine their placement results.

5. Student Engagement: Analytics tools often engage students with features like personalized recommendations and progress tracking. Engaged students are more likely to actively participate in the placement process.

9.2.DISADVANTAGES:

- 1. Data Privacy Concerns: Collecting and analyzing student data raises privacy concerns. Ensuring compliance with data protection regulations, like GDPR or FERPA, can be challenging.
- 2. Overreliance on Data: While data-driven decisions are beneficial, overreliance on data can sometimes lead to overlooking the human and qualitative aspects of placement. Skills, culture fit, and other non-quantifiable factors are also important.
- 3. Data Accuracy and Quality: The effectiveness of analytics depends on the accuracy and quality of the data. Inaccurate or incomplete data can lead to misleading insights and recommendations.
- 4. Initial Implementation Challenges: Setting up and configuring an analytics tool can be time-consuming and may require significant resources, both in terms of technology and personnel.
- 5. Costs and Resource Requirements: Developing, implementing, and maintaining an analytics tool can be expensive.

10. CONCLUSION

In conclusion, an analytics tool for placements represents a valuable and innovative solution for improving the efficiency and effectiveness of the student-to-job matching process in educational institutions and organizations. It leverages data and insights to facilitate better decision-making and personalized guidance. However, as with any technology, it comes with its own set of challenges and considerations.

The advantages of an analytics tool for placements are substantial. It enables data-driven decision-making, offering insights that lead to improved placement rates and career outcomes for students. Personalized recommendations and engagement features enhance the student experience, while also providing employers with more efficient and effective candidate matching. The ability to track the long-term success of alumni contributes to the ongoing improvement of educational programs.

Ultimately, the adoption of analytics tools for placements holds great promise for optimizing placement processes, enhancing career services, and providing a more valuable experience for students, career services staff, and employers. By carefully managing the associated challenges and focusing on responsible data usage, educational institutions and organizations can harness the power of analytics to benefit all stakeholders in the placement process

11. FUTURE SCOPE

1. Artificial Intelligence (AI) and Machine Learning (ML):

AI and ML will play an increasingly significant role in placement analytics. These technologies will enable more advanced predictive analytics, allowing institutions to forecast job market trends, student success, and tailor recommendations with even greater precision.

2. Big Data and Predictive Modeling:

As the volume of data available for analysis continues to grow, analytics tools will need to become more proficient at handling big data. Predictive modeling will become more accurate, helping institutions make strategic decisions in real-time.

3. Natural Language Processing (NLP):

NLP technology will enhance the way analytics tools process unstructured data, such as resumes and job descriptions. This will lead to more sophisticated candidate-employer matching.

4. <u>Improved User Experience (UX):</u>

Future analytics tools will focus on providing an even better user experience. They will be designed to be more intuitive, responsive, and mobile-friendly, increasing user engagement.

5. Blockchain for Credentials Verification:

The use of blockchain technology can help verify educational credentials, making it easier for employers to trust the qualifications of job applicants. This can enhance the placement process and reduce fraud.

6. Greater Customization:

Tools will allow institutions to customize and adapt their analytics dashboards and algorithms to meet the specific needs and goals of their programs and students.

12.APPENDIX

12.1. Source Code

```
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="utf-8">
 <meta content="width=device-width, initial-scale=1.0"</pre>
name="viewport">
 <title>PLACEMENT ANALYSIS Bootstrap Template - Index</title>
 <meta content="" name="description">
 <meta content="" name="keywords">
 <!-- Favicons -->
 k href="https://inurture.co.in/jagannath-university/jagannath-
college-admissions/imgs/icons/placement%20support.png" rel="icon">
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touch-icon">
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href="https://fonts.googleapis.com/css?family=Open+Sans:300,300i,400,
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0,700i|Poppins:300,300i,400,400i,500,500i,600,600i,700,700i"
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<!-- Vendor CSS Files -->
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rel="stylesheet">
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rel="stylesheet">
 k href="static/assets/vendor/remixicon/remixicon.css"
rel="stylesheet">
 k href="static/assets/vendor/swiper/swiper-bundle.min.css"
rel="stylesheet">
 <!-- Template Main CSS File -->
 <link href="static/assets/css/style.css" rel="stylesheet">
</head>
<body>
<header id="header" class="fixed-top ">
<div class="container d-flex align-items-center justify-content-lg-</pre>
between">
   <h1 class="logo me-auto me-lg-0"><a
href="index.html">PLACEMENT
ANALYSIS<span>.</span></a></h1>
```

```
img src="Static/assets/img/logo.png" alt="" class="img-fluid"></a>---
   <nav id="navbar" class="navbar order-last order-lg-0">
    \langle ul \rangle
     <a class="nav-link scrollto active"</li>
href="#hero">Home</a>
     <a class="nav-link scrollto" href="#about">About</a>
     <a class="nav-link scrollto"</li>
href="#services">DashBoard</a>
     <a class="nav-link scrollto"</li>
href="#portfolio">StoryBoard</a>
     <a class="nav-link scrollto" href="#team">Team</a>
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class="bi bi-chevron-down"></i></a>
       <111>
        <a href="#">Drop Down 1</a>
        <a href="#"><span>
   <a href="#about" class="get-started-btn scrollto">Get Started</a>
  </div>
 </header>
 <section id="hero" class="d-flex align-items-center justify-content-</pre>
center">
  <div class="container" data-aos="fade-up">
```

```
<div class="row justify-content-center" data-aos="fade-up" data-aos-</pre>
delay="150">
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      <h1>PLACEMENT ANALYSIS <span></span></h1>
      < h2 > < /h2 >
    </div>
   </div>
 </section
  <section id="about" class="about">
   <div class="container" data-aos="fade-up">
    <div class="row">
      <div class="col-lg-6 order-1 order-lg-2" data-aos="fade-left" data-</pre>
aos-delay="100">
       <img src="Static/assets/img/about.jpg" class="img-fluid" alt="">
      </div>
      <div class="col-lg-6 pt-4 pt-lg-0 order-2 order-lg-1 content" data-</pre>
aos="fade-right" data-aos-delay="100">
       <h3></h3>
       >
  </section>
  <!-- ===== Clients Section ====== -->
  <section id="clients" class="clients">
```

```
<div class="container" data-aos="zoom-in">
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      <div class="swiper-wrapper align-items-center">
       <div class="swiper-slide"><img</pre>
src="static/assets/img/clients/client-1.png" class="img-fluid"
alt=""></div>
       <div class="swiper-slide"><img</pre>
src="static/assets/img/clients/client-2.png" class="img-fluid"
alt=""></div>
       <div class="swiper-slide"><img</pre>
src="static/assets/img/clients/client-3.png" class="img-fluid"
alt=""></div>
    <div class="swiper-slide"><img src="static/assets/img/clients/client-</pre>
4.png" class="img-fluid" alt=""></div>
       <div class="swiper-slide"><img</pre>
src="static/assets/img/clients/client-5.png" class="img-fluid"
alt=""></div>
       <div class="swiper-slide"><img</pre>
src="static/assets/img/clients/client-6.png" class="img-fluid"
alt=""></div>
       <div class="swiper-slide"><img</pre>
src="static/assets/img/clients/client-7.png" class="img-fluid"
alt=""></div>
       <div class="swiper-slide"><img</pre>
src="static/assets/img/clients/client-8.png" class="img-fluid"
alt=""></div>
```

```
</div>
      <div class="swiper-pagination"></div>
     </div>
   </div>
         </section>
section id="features" class="features">
   <div class="container" data-aos="fade-up">
     <div class="row">
      <div class="image col-lg-6"</pre>
style='backgroundurl("https://bestcollegesinindia.in/wp-
content/uploads/2021/10/Campus-placement.jpeg"); data-aos="fade-
right"></div>
      <div class="col-lg-6" data-aos="fade-left" data-aos-delay="100">
       <div class="icon-box mt-5 mt-lg-0" data-aos="zoom-in" data-</pre>
aos-delay="150">
        <i class="bx bx-receipt"></i>
 <script src="static/assets/vendor/aos/aos.js"></script>
 <script
src="static/assets/vendor/bootstrap/js/bootstrap.bundle.min.js"></script>
 <script
src="static/assets/vendor/glightbox/js/glightbox.min.js"></script>
```

12.2 Github link:

https://github.com/Sri2413/Analytics-Tool-for-Placements

12.3 Project Demo link:

https://drive.google.com/file/d/11N4O3R3Tjgd6AuqtuEf5z2WAPXVt4 Xnd/view?usp=drivesdk