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AI DRIVEN FREELANCING PLATFORM WITH INTEGRATED CAREER GUIDANCE

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ABSTRACT

Some freelancers struggle to find relevant jobs that they are interested in and also some clients cannot find freelancers with the same expertise. Currently, existing freelancing platforms neither match skills accurately nor optimize growth of an individual's freelance career. The proposed platform is an AI- driven system that matches skills and interests to discover freelance opportunities and also provide personalized career recommendations. This platform helps users in skill-development and potential career paths. The main aim is to provide suitable freelance projects while also guiding them in choosing the right career directions according to their interests, skills, experience and work preferences. It suggests relevant courses by identifying skill gaps to help them grow professionally. The system uses machine learning algorithms and data analytics techniques to analyse freelancer profiles, that include technical skills, educational background, professional experience, portfolio content, interests and salary expectations. It results in optimized matching accuracy, reduced hiring time and improved career growth.

Keywords: Artificial Intelligence, Skill Matching, Freelancing platform, Career Guidance, Machine Learning

1. INTRODUCTION :

AI- Driven Freelancing Platform with Integrated Career Guidance is an advanced web-based system designed to connect freelancers and companies in supporting professional growth. Most of the platforms do not provide tools for guiding careers and developing new skills. This project aims to improve traditional freelancing platforms by integrating artificial intelligence for skill-based project matching and structured career development. It creates a centralized digital platform where freelancers create detailed profiles including skills,

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portfolio, experiences, interests and career goals. Companies can also post projects categorized by required skills, budget, duration and domain. The system enhances transparency, improves hiring efficiency and supports professional development. The career guidance component also recommends certifications, online courses and relevant skills, empowering freelancers to remain competitive. The platform reduces manual effort, minimizes hiring bias, and creates a balanced ecosystem where both freelancers and employers benefit for continuous growth opportunities.

2. LITERATURE TABLE

Smith et al. titled as "AI- based Job Matching System" presents an intelligent system designed to improve recruitment process by using artificial intelligence techniques. The authors proposed a system that uses NLP and ML techniques to automatically analyze candidate resumes and match them with suitable job descriptions.

Chen & Gupta. titled "Career Path Recommendation Using AI" that focuses on the development of an intelligent system that helps individuals choose career paths using artificial intelligence. This system depends on manual work with limited data analytics which may not always reflect the individual's strengths and interests. An advantage is that the system considers current industry demand and future trends.

Ahmed & Kumar. titled "Intelligent Freelancing Marketplace Model: That presents an AI-driven platform to improve the process of matching freelancers with suitable projects. It enhances skill matching, ensuring that projects are assigned to freelancers with the most relevant expertise. This model uses similarity scoring algorithms and artificial intelligence techniques to automate and enhance the project -freelancer matching process.

Patel & Verma. titled "Personalized Skill Gap Analysis Framework" that presents a system designed to identify skill gaps and recommend learning resources to improve growth. It depends on accuracy of the data provided by users. The system may not fully capture soft skills or personal interests. It allows organizations to make data-driven decisions regarding skills and training programs.

3. METHODOLOGY

a. Data Collection and User Input

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The system starts by collecting information from users. Freelancers first register and create their profiles on the platform by entering details such as skills, work experience, education, and career interests. Similarly, Employers also register and post their projects details such as project title, description, required skills and budget. All this information is stored in central database. At this stage, the data is also checked and organized properly so that it can be used later by the system for matching freelancers with suitable projects.

b. AI Based Skill Matching

The platform uses an AI – based system to match freelancers with suitable projects. It looks at the skill mentioned in the freelancer profiles and compares them with the skill required in project descriptions. These skills are converted into structured lists and then compared using similarity scoring techniques. Based on how many skills match, the system calculates a match score. Projects are the ranked according to this score so that freelancers can easily find the most relevant opportunities, while employers can quickly identify the best candidates for their projects.

c. Career Guidance and Skill Gap Analysis

The system also provides career guidance for freelancers. It studies the freelancer's skills, experience, and interests to understand which roles, they are most suitable for. The platform compares the freelancer's current skills with the skills that are usually required in different freelancing domains. If certain important skills missing, the system performs a skill gap analysis and suggests ways to improve. It may recommend online courses, certifications, or learning paths that can help freelancers grow in their career.

d. Visualization Dashboard

The platform includes a web-based dashboard for both freelancers and employers. The freelancer dashboard shows recommended projects, skill matching scores, and career guidance suggestions. The employer dashboard displays information about the projects they have posted and the freelancers who have applied. The dashboard also presents visual summaries of matching results and skill gap analysis. This makes it easier for users to understand the recommendations provided by the system and helps them make better decisions on the platform.

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4. ALGORITHM

1. **Cosine Similarity**
    a. Represent freelancer skills and project requirements as vectors.
    b. Determine similarity through cosine angle between vectors.
    c. High similarity score means good fit for project.
2. **Content-Based Filtering**
    a. Review freelancer's profile containing skills, hobbies, and experience.
    b. Compare with project characteristics including skill requirements and type.
    c. Suggest projects that align with freelancer's qualities.
3. **Collaborative Filtering**
    a. Study actions of freelancer users.
    b. Determine trends among chosen or completed projects.
    c. Recommend projects according to user preferences.
4. **Set-Based Comparison**
    a. Create sets from skills for both freelancer and project.
    b. Determine intersection (common skills).
    c. Compute matching percentage using common and total skills.
5. **Weighted Score Approach**
    a. Allocate weightage to criteria like skills, experience, and education.
    b. Evaluate weighted score using formula.
    c. Arrange projects based on score and recommend them.

5. RESULTS

USER INTERFACE

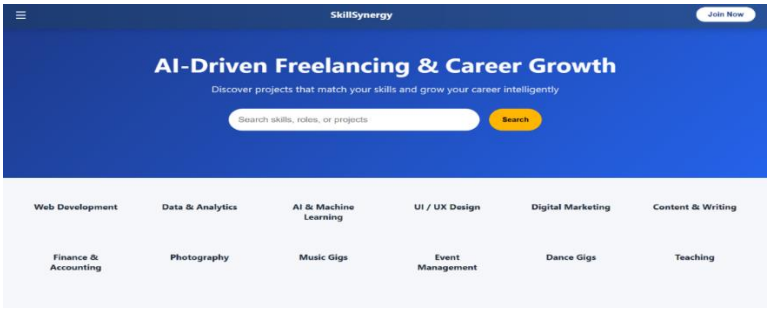

Fig 1 : Index Page

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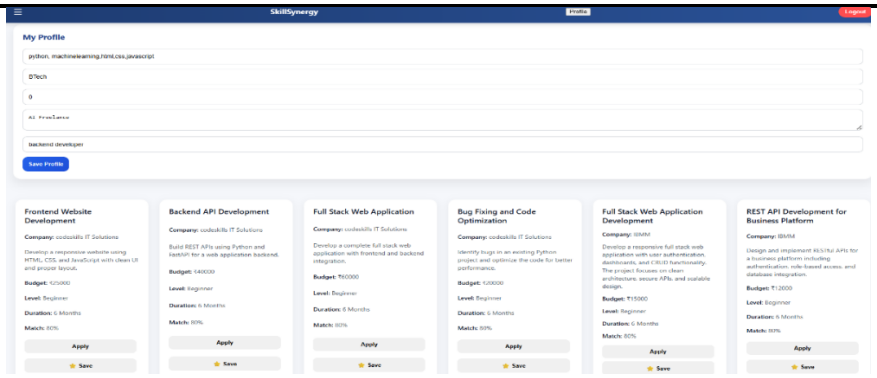

Fig 2 : User Input form and matched projects

1. Freelancers give their skills, education, portfolio and preferred job role as input and then clicks on the save profile. After clicking on save profile immediately the profile will be saved and the matched projects will be showed on the freelancer's dashboard depending the freelancer's input and project's skill requirements and description.

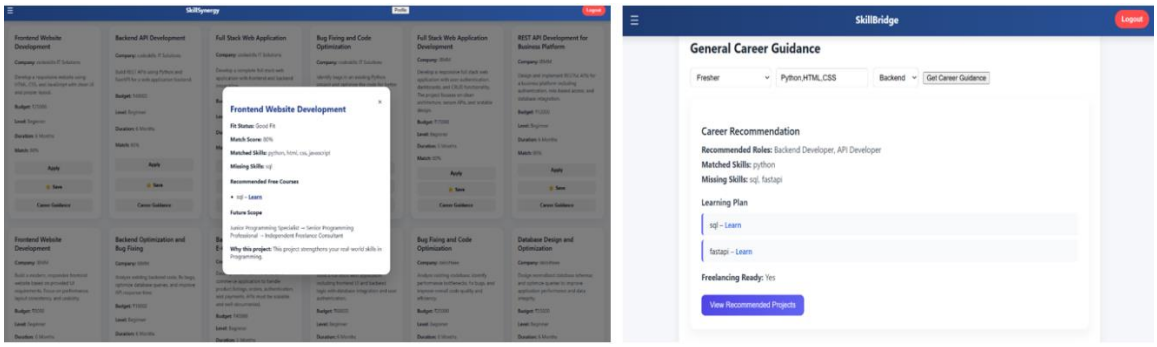

Fig 3 : career guidance for each project / general career guidance

2. After the matched projects are displayed, the freelancer can check how well they are suitable for an individual project by clicking on the career guidance and then it displays the matched and missing skills along with the matched percentage and why that particular role suits them and how to learn missing skills. When the freelancer wants an overall career guidance, they click on career guidance and fill out the required details and get the detailed career guidance to ace their career and finds the perfect roadmap to grow in their career.

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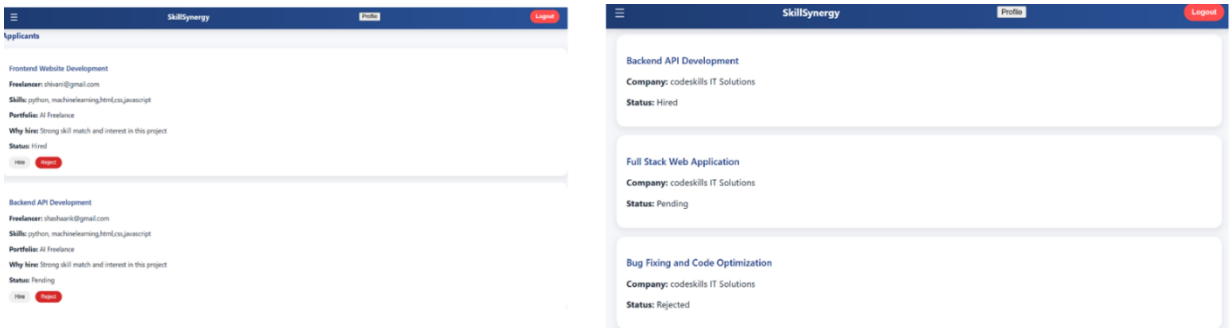

Fig 4 : Track applications and applicants

3. After finding the right project for the freelancer, they can click on apply button and an application will be sent to the employer. The applications will be reflected in the applicants section of the employer's dashboard and the employer will analyse why that particular freelancer is the best fit for the role and depending on that they hire or reject the freelancer for a particular project and it will be immediately reflected in the applications section of the freelancers dashboard and freelancers will be notified whether they are hired or rejected.

6. CONCLUSION

This paper explains the development of an AI-based freelancing platform which matches skills with tasks and provides career guidance to users. This is done through analysis of the user profile, where their strengths are found and relevant tasks suggested to them, while also gauging their ability to handle those projects. Inclusion of the web interface helps freelancers and employers work effectively and become more productive. The inclusion of all these aspects helps organizations improve their recruitment process and increase user satisfaction and aid in better decision making.

7. FUTURE SCOPE

This work proposes an extension of the capabilities of the AI-Driven Freelancing Platform through the integration of state-of-the-art features associated with AI-driven recommendations and analytics. First of all, the platform should be updated to ensure skill-based matching, making it possible for users to analyse their skills along with those of other individuals. The analysis will include the identification of skills in freelancer profiles, projects, and portfolios. Also, users' skills will be evaluated in real time, and

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when it comes to finding out about gaps and skill deficits, the AI-Driven Freelancing Platform will offer relevant courses and training materials to help users improve their skills. In addition, users will receive personalized advice and career guidance as well thanks to the introduction of intelligent resume parsing. The proposed improvements will cover various fields and take into account emerging trends in each of them.

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