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Resume Builder And Analyzer Using GPT Model

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Abstract-This project is an AI-driven platform that helps users create, analyze, and verify professional documents. It includes features such as a Resume Builder, Resume Analyzer, Cover Letter Generator, Certificate Verification system, and an Admin Dashboard in one application. The system helps students and job seekers generate resumes and cover letters automatically and checks resumes for errors, formatting, keywords, and job suitability. The certificate verification feature confirms the authenticity of documents by analyzing extracted text and identifying inconsistencies. The platform is built with a flexible and scalable design, using HTML, CSS, and JavaScript for the front end and Python Flask with AI/ML support for the backend, ensuring secure, fast, and easy document handling.

Keywords: The platform uses artificial intelligence to build and assess resumes. It analyzes resume text, identifies skills, and matches profiles with job requirements using smart comparison techniques. The system generates scores and insights that support career guidance and efficient hiring decisions. Additionally, it provides clear feedback to help users improve resume quality and job relevance.

INTRODUCTION

In today's competitive job market, having a well-structured and effective resume is essential for career success. Recruiters increasingly rely on automated systems to screen applications, making it difficult for candidates to get shortlisted without proper formatting and relevant keywords. Many job seekers struggle to design professional resumes and understand how their profiles are evaluated by such systems. To solve this problem, this project proposes an AI- Powered Resume Builder and Analyzer that helps users create, analyze, and improve resumes efficiently. The system uses artificial intelligence and natural language processing techniques to generate resumes, assess content quality, match skills with job descriptions, and provide meaningful feedback. By automating resume evaluation and guidance, the platform supports students and job seekers in building strong, ATS-compatible resumes and improving their employment opportunities.

I. LITERATURE SURVEY

Many researchers point out that conventional resume preparation systems depend heavily on fixed templates and manual editing, which limits their effectiveness in automated hiring environments [1][2]. To address this, several studies use natural language processing techniques to extract structured information such as skills, education, and experience from unstructured resume documents [3][5]. Machine learning and similarity-based methods are applied to compare resumes with job descriptions, improving job-role matching and Applicant Tracking System performance [6][7].

Recent works also explore generative AI models to enhance resume content by improving language clarity, keyword relevance, and role-specific customization [8][9]. However, challenges related to handling complex resume layouts, scanned documents, data privacy, and fairness in automated evaluation continue to exist [13][14][15]. These limitations motivate the development of more intelligent, secure, and user-focused resume builder and analyzer systems.

METHODOLOGY

The proposed system addresses this gap by bringing together task management, secure user login, and a reward-based gamification feature to motivate students to stay active and productive. The application follows a modular design approach, using Flutter to deliver a smooth cross-platform user interface, Firebase to handle backend operations, and dedicated gamification components to improve user engagement and consistency.

Figure 1: System Architecture

Step 1: User Access

Job seekers and recruiters log in to the web application and perform actions such as creating resumes, uploading files, or posting job details.
The interface is designed to be responsive and easy to use across devices.

Step 2: Backend Handling

The backend receives requests, manages user authentication, and prepares resume and job data for processing. It ensures smooth communication between the frontend and AI modules.

Step 3: Resume Processing

Uploaded resumes are converted into structured data by extracting skills, education, and experience from the documents.
This step removes unnecessary formatting and standardizes the extracted information.

Step 4: AI Analysis

AI and NLP models analyze the resume and job description to identify keywords, measure relevance, and calculate ATS scores.
The analysis helps determine how well a resume matches a specific job role.

Step 5: Scoring and Feedback

The system generates scores and provides suggestions to improve resume quality and job matching. Users receive clear insights on missing skills and content improvements.

Step 6: Security and Improvement

All modules communicate through secure APIs, and user data is protected using encryption. Continuous feedback and updates help improve system accuracy and performance over time.

II. RESULTS

The developed Resume Builder and Analyzer clearly shows how artificial intelligence can improve the way resumes are created and reviewed for students and job applicants. By combining GPT-based content generation with automated ATS evaluation, the system delivers well-structured and reliable suggestions that help enhance overall resume quality.

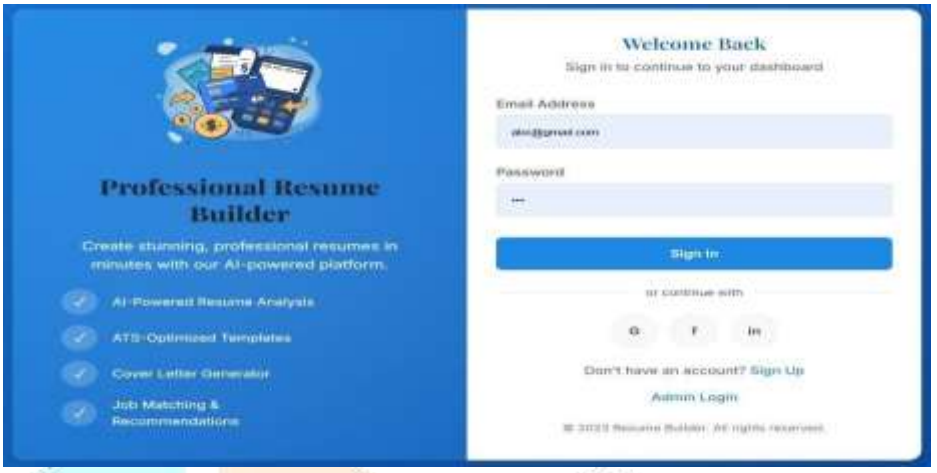

Figure 2: Login Page

The above figure shows the login page of the Resume Builder and Analyzer system. It allows users to securely access the platform using registered credentials. The interface is simple and user-friendly, reducing confusion during login. Authentication ensures that personal resume data remains protected. This page controls access to all AI-based features. It forms the first step in personalized resume management.

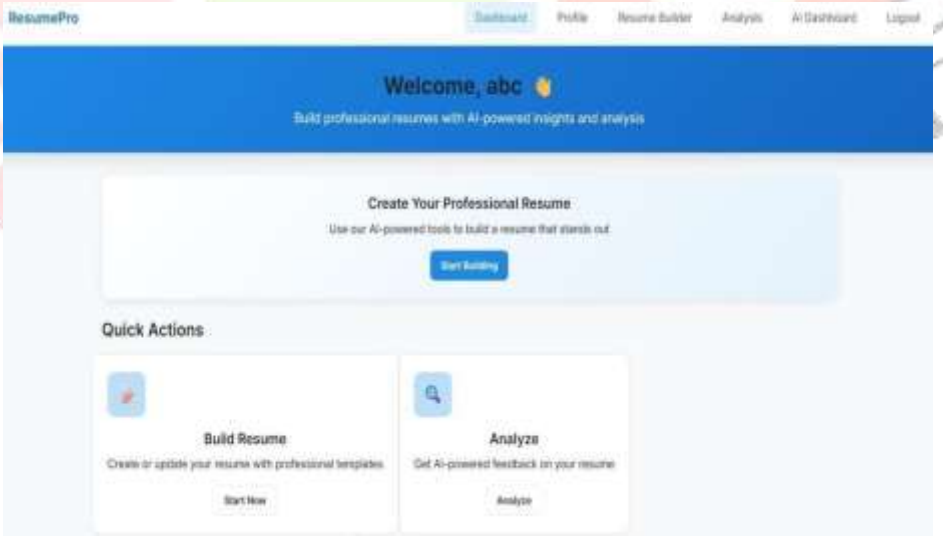

Figure 3: User Dash Board

This figure displays the main dashboard after successful login. It provides quick access to resume building, resume analysis, and AI tools. The dashboard summarizes available actions and guides users to start or improve their resumes efficiently.

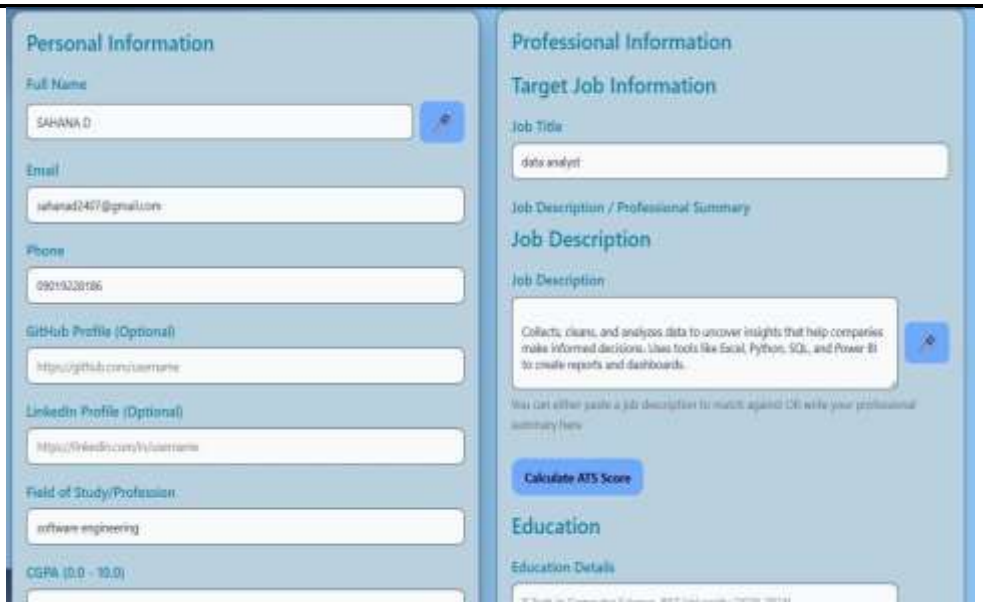

Figure 4: Resume Builder Interface

The above figure shows the resume builder interface used to collect user details. It allows entry of personal, educational, and professional information. Fields for skills, job roles, and experience are clearly structured. The form ensures that all required resume sections are covered. Data entered here is stored systematically. This interface simplifies resume preparation for users.

Figure 5: Resume Preview and Customization

This figure shows the generated resume preview with style and font customization options. Users can adjust formatting, apply templates, and download the resume as a PDF, ensuring ATS-friendly output.

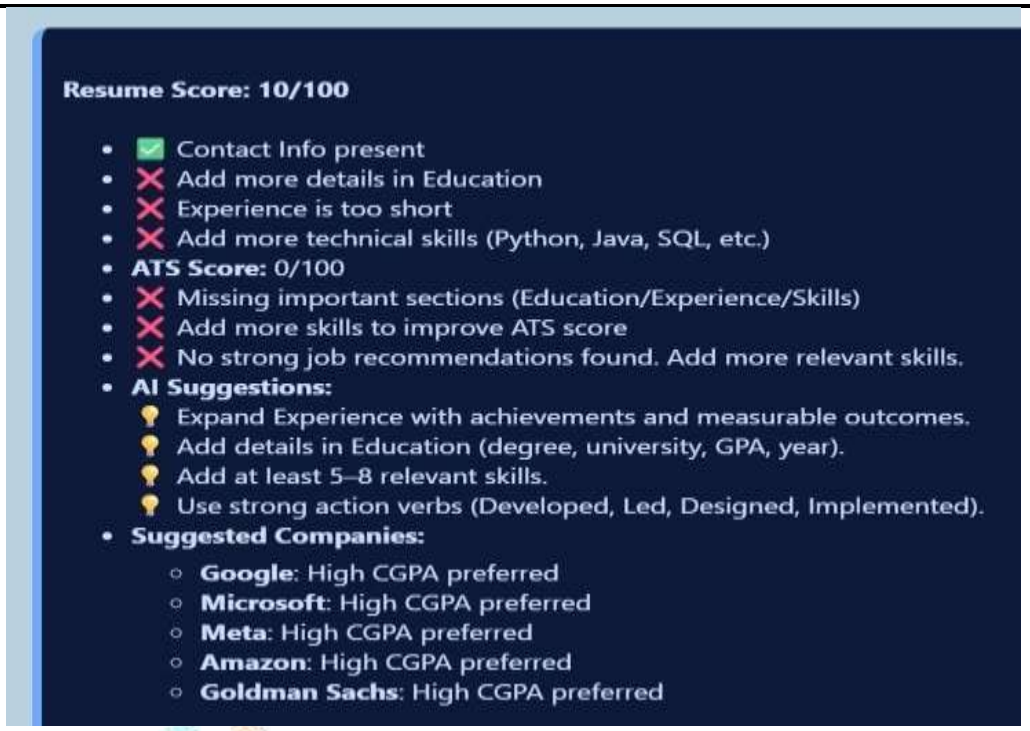

Figure 6: Resume Analysis and ATS Score

The above figure shows the AI-based resume analysis results. The system evaluates the resume and generates an ATS compatibility score. Weak sections and missing details are clearly highlighted. Suggestions are provided to improve content quality. The analysis helps users align resumes with job descriptions. This feature improves shortlisting chances.

Figure 7: Hackathon and Opportunity Listings

The above figure shows the hackathon and career opportunity listing page. It displays details such as event name, date, and rewards. Users can explore skill-building opportunities easily. This module promotes continuous learning. Participation in such events enhances resumes. It supports long-term career growth.

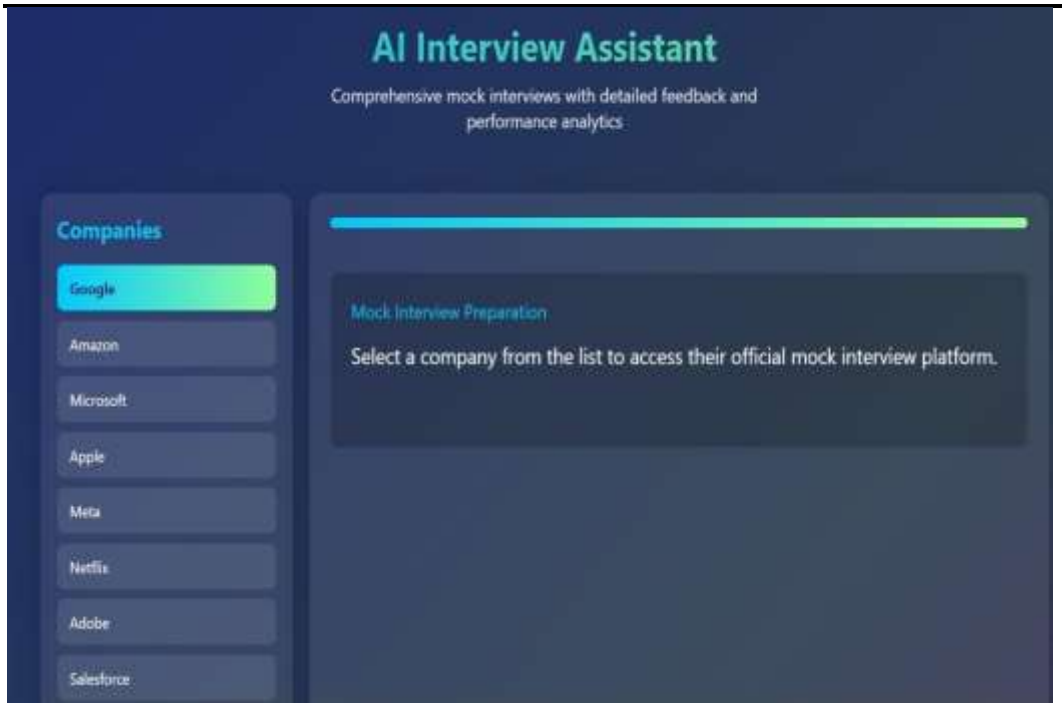

Figure 8: AI Interview Assistant

The above figure shows the AI Interview Assistant module. It helps users prepare for interviews based on selected roles or companies. The system provides practice questions and guidance. Mock interview support improves readiness. This feature helps users understand interview expectations. It increases confidence before real interviews.

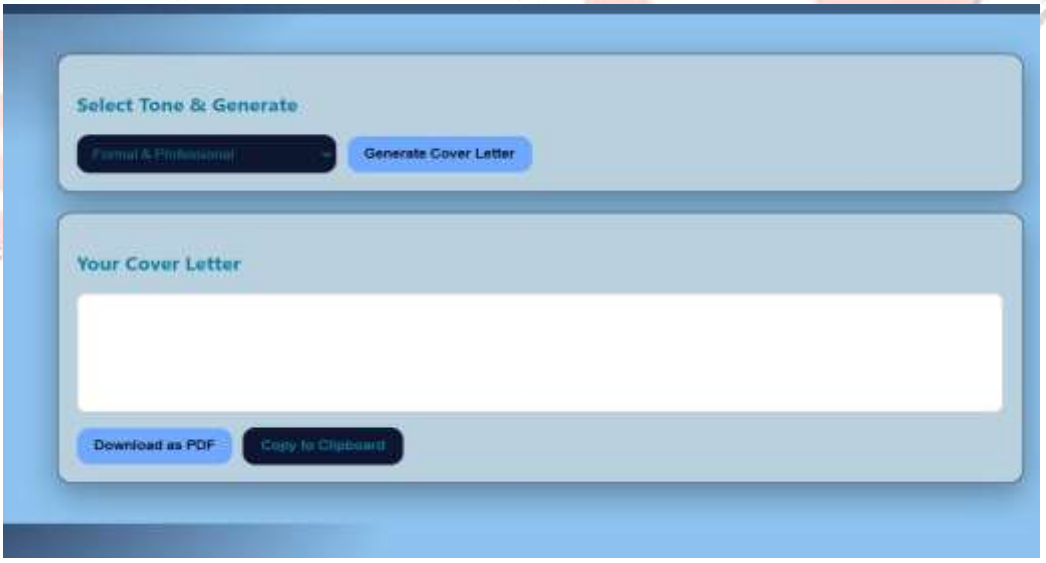

Figure 9: Cover Letter Generator

The above figure shows the AI-powered cover letter generator. Users can select tone and job role preferences. The system creates customized and professional cover letters. Generated content matches resume details. Letters can be downloaded or copied. This feature saves time during job applications.

CONCLUSION

The AI-based Resume Builder and Analyzer transforms resume creation into an intelligent and structured process. By applying artificial intelligence, natural language processing, and machine learning, the system automatically evaluates resumes, enhances ATS readiness, and provides personalized improvement suggestions. Its user-friendly interface, quick analysis, and adaptable architecture make it suitable for

students, professionals, and academic institutions. The project also demonstrates that gamification can positively influence student motivation and task completion. Future improvements may include support for multiple languages, bias-aware evaluation, smart reminder features, closer integration with recruitment platforms, and deeper analytical insights. Overall, the project shows that AI-driven automation can simplify resume preparation while increasing quality, fairness, and accessibility for job seekers.

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