IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 1, January 2026
Impact Factor: 7.67

An Intelligent Multi-Phase Framework for Automated Career Optimization and Strategic Assessment

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Abstract: *"An Intelligent Multi-Phase Framework for Automated Career Optimization and Strategic Assessment," known as Aura AI is an intelligent and sophisticated system designed using artificial intelligence that has the capability to optimize and improve the job application process. Aura AI is the beginning of something new because of its unique way of bringing resume development, ATS optimization, and automated interview preparation together. With Aura AI, candidates are not only able to make professional resumes aligned to the industry requirements but also test the aptness of the resume on the ATS system. Aura AI uses the Gemini AI to provide intelligent inputs in the resume development phase and ATS aptness. Built using Next.js for a responsive user interface, Drizzle ORM for high-performance database management ensures this platform provides a seamless and consistent user experience. Clerk integrates securely for authentication and identity management, granting the environment a strong capability to protect the users' personal data. It comes equipped with personalized dashboards that each user can use to track their resume scores, access tailored interview questions, and manage their career progress. By combining generative AI with modern web technologies, the Aura AI Framework sets a constant, objective, and productive track toward professional skill building and job attainment.*

Keywords: Artificial Intelligence, Next.js, Web Application, Applicant Tracking Systems, Resume Generation, Automated Interview

I. INTRODUCTION

The evolution in technology and competitiveness in the job market has greatly influenced contemporary recruitment trends. Today, it is a fact that for each vacancy created in an organization, there are far too many applications to choose from. This makes it even harder for a person to stand out and make a mark in such a competitive setting. In such a challenging scenario, it is not enough to possess educational and skills qualifications; a recruit must have an appealing professional portfolio and high preparedness levels during the assessment stage.

The resume is basically the point of contact in a selection process, which mainly serves as a point of first assessment for a recruiter. However, organizing a resume, especially for newly graduating individuals, has posed a great problem. This mainly occurs because unformatted resumes, which include ambiguous descriptions of achievements, often have little effect. This problem has been made worse because of the proliferation of the use of applicant tracking systems. This kind of automated selection tool makes use of relevance to select resumes based on certain standards. This mainly refers to the relevance of resumes to automated parsing.

Interview preparation is the second big challenge in the recruitment process. Contemporary interviewing evaluates a sophisticated mix of subject matter expertise, communication competencies, and behavioral qualities. Interview candidates commonly have what has come to be known as "interview anxiety," because of the unstructured interview

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questions in their particular field of endeavour. Current methods of preparation have been generalized, unstructured, and lack depth for specific sectors of the market.

Moreover, the traditional method of job searching is a labour-intensive and inefficient process. The candidate has to personally modify his resume for different jobs and then perform keyword research himself. He would even require simulated interview practice. The disjointed and inefficient method would result in 'applicant fatigue' and inadequate preparation for a job interview for a candidate. Artificial Intelligence has a revolutionary solution for all such problems.

Aura AI is a project that brings out a tool named Aura AI, which is designed with a focus on having a holistic solution for job seekers today. The tool is developed with Next.js for faster performance and is a result of the Google Gemini API for capabilities that encompass three key areas: AI-powered Resume Synthesis Module, Real-time Optimization Module for ATS, and Adaptive Interview Questions Generation Module for ASKT. The tool is designed with a focus on a secure platform for data via Drizzle ORM for secure data services and Clerk for strong authentication solutions for a seamless and secure ecosystem for a holistic solution for job seekers today

II. LITERATURE REVIEW

[1] R. J. Sunico, S. Pachchigar, V. Kumar, I. Shah, J. Wang and I. Song, "Resume Building Application based on LLM"

Sunico and his colleagues presented a LLM-driven resume builder that is designed to help users draft, refine, and format curricula vitae with minimal manual effort. This system leverages generative language models for creating coherent summaries, converting bullet points into achievement-focused statements, and optimizing phrasing for Applicant Tracking Systems. Implementation focuses on usability for students and early-career candidates by providing integrated prompts to capture role, project, and impact information, returning a structured resume template. Evaluation focuses on qualitative improvements in clarity and ATS keyword coverage compared to baseline templates; the authors mention that LLM assistance improves fluency and relevance at the expense of over-generalizations requiring human editing. Key contributions are the practical demonstration of LLMs for resume composition and a discussion of human-in-the-loop oversight to reduce hallucinations. The paper highlights the need for better domain adaptation and controlled output formats for production use.

[2] A. Rajput, A. Dubey, R. Thakur, D. Singh and U. P. Singh, "Career Craft AI: A Personalized Resume Analysis and Job Recommendations System"

Research Paper by Rajput et al. explains a system called "Career Craft AI," which provides an integrated framework encompassing resume evaluation, coupled with a recommendation framework tailored to a person's resume. The framework has been broken down into three broad modules: resume parsing and evaluation, skill extractions and gap identification, and a recommendation engine used for matching resumes with job postings, as well as courses or a certification relevant to a candidate. In terms of methodology, no machine-learning technique has been utilized.

On ranked job recommendation algorithms. The paper focuses on hyper-personalization to suit individual skill gaps and introduces an ATS compatibility metric for improved search visibility. The effectiveness of this approach for match rates and user engagement is shown by the evaluations in the paper compared to a keyword-based match baseline; however, limitations for applicability include robustness to noisy and ill-formatted resumes and requirements for bigger labelled datasets to measure placement effectiveness for longer-term placement success. The study provides a roadmap for a complete career support solution development.

[3] P. Kanjalkar, S. Patil, S. Pembarti, S. Sarpe and J. Kanjalkar, "Resume Building and Course Recommendation System"

Kanjalkar and his coauthors merged resume generation with course recommendation to enable a pipeline for enhancing employability by targeted learning. Their approach parses candidate resumes to extract skills, experience, and educational background; subsequently, it maps the detected skills against a course catalog and generates prioritized course suggestions that close the identified gap. The system embeds both rule-based and statistical matching techniques that align candidate profiles against role-specific requirements; the authors discuss a modular architecture that supports

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both template generation and personalized learning paths. Evaluation is focused on case studies where recommended courses increase alignment with job descriptions and improve an ATS compatibility score. The paper mentions limitations such as reliance on curated course metadata and the difficulty in objectively estimating longer-term career impact. Nonetheless, this work demonstrates a useful coupling of resume optimization with actionable up-skilling recommendations that are informative for platforms aimed at closing the skill-to-job loop.

[4] Resume.io and similar automated builders.

Resume.io is representative of what's been done in fully automated resume tools, blurring the lines among templates, phrasing assistance, and ATS compatibility. While Resume.io makes resumes quickly with templates that have been improved through feedback from recruiters, it's the utility of the artificial intelligence component in helping the user create readable summary statements and job-specific bullets that could truly help. However, according to the literature, such programs necessarily lack deep insight in favour of speed, in that the program's assistance will necessarily be very general, while deep customization, including representation of technical work details, will necessarily take human effort, including writing. Every user of such software needs to be aware of this, according to vendor literature. Accurately reflects their accomplishments and avoids overgeneralization. In summary, services like Resume.io are wonderful tools for quick polishing, but sophisticated personalization and critical accuracy checks are still required.

[5] Prof. Ashish P. Modak., "Resume Builder Using Artificial Intelligence"

A study from Modi and his colleagues. is a valuable example of research on AI-based resume construction combining NLP and machine learning sub-components for parsing, keyword extraction, and ATS optimization services. The study integrates entity extraction for entities such as education and work experience with a skill set for resume writing) with job description analyses for keywords relevant for various roles and recommends resume writing with suggestions for structure and phrasing for ATS support.

The study has a section on methodologies for datasets used for research and AI writing tool design with a workflow for a user-friendly interface targeting beginners for resume writing processes. The study has shown positive outcomes with increased ATS scores and greater satisfaction with a prompt for future research studies involving objective analyses linking generated resumes adjusted by AI with interview success and ethical standards for generated facts. The study is useful for demonstrating a systems approach with a focus on user evaluation with AI for resume development.

[6] K. L. Abhishek, M. Niranjanamurthy, S. Aric, S. Immamul Ansarullah, A. Sinha, G. Tejani and M. A. Shah, "Developing an Intelligent Resume Screening Tool With AI-Driven Analysis and Recommendation Features,"

A research work on developing an AI-based resume evaluation and recommendation system by Abhishek, Niranjanamurthy, Aric, Ansarullah, Sinha, Tejani, and Shah, explores an efficient way of employing classification, similarity, and Natural Language Processing concepts in resume evaluation. It summarizes candidate skills, experience, and significant job-related terms, generating fit scores and match improvement tips. These topics include identifying candidate skills, experiences, job requirements, and job-related terms, later generating fit scores according to candidates and jobs. Their research aims to improve the screening process with increased accuracy and rapid short-listing. Though accurate, Abhishek et al. appreciate the screening process challenges, including imbalanced candidate resumes and candidate resumes that lack proper structuring. These authors further appreciate the future scope of minimizing candidate screening imbalances, incorporating diverse candidates, and testing the software in real-world scenarios. Their work advocates efficient AI-supported hiring process. Research also addresses enhanced automation of candidate resume analysis..

[7] "AI-Based Automated Recruitment and Resume Screening System"

This 2025 paper proposes a recruitment and resume-screening framework for AI that aims to enable more consistent evaluations of candidates while easing the workload of the recruiters. The authors use AI technology in their resume-screening method, benefiting from the use of natural language processing in the parsing of texts for resume analysis. The method involves the use of role-based matching of key Resume search phrases for the assessment of candidates.

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The resume-screening method involves the candidate data flow process, derivation of key competencies, and the use of scoring approaches for matching Resume requirements. The experimental test for the recruitment method has led to increased efficiency in resume screening, decreased Resume screening workload, and easier accuracy in the shortlisting of appropriate Resume candidates. The paper, however, has acknowledged the limitation for the recruitment method, such as the reliance on the use of structured Resume inputs, the variability in the Resume content, and the risk of inheriting Resume-bias issues from the training data sets.

[8] S. K. Mishra and A. Verma, "Next-Generation Recruitment Automation Using AI and Predictive Analysis"

Mishra & Verma propose the latest recruitment automation paradigm based on next-generation analytics and prediction done with the help of Artificial Intelligence. Their research work details the design of a multi-stage processing pipeline that combines NLP-driven candidate resume parsing, feature extraction, and prediction score modeling for evaluating candidate suitability according to past recruitment trends and competency scores. Mishra & Verma explain in their research the use of candidate prediction metrics in machine learning classification tools for forecasting job fit, future performance, and likelihood of employee attrition. It is made clear in this research that the proposed system utilizes machine learning classification tools and prediction metrics in terms of behavioral forecasts. Based on experiments, there are improvements in the accuracy of recruitment, screening time, and consistency of candidate ranking. However, some limitations in this research are the use of past candidate data, inherent probability of algorithmic biases, and the need for periodic model updates. Future extensions are proposed in terms of fairness analysis, real-time application with ATS, and domain validation.

[9] S. R. Joshi, P. Patil and A. K. Verma, "InterviewEase: AI-Powered Placement Assistance"

Joshi, Patil, and Verma introduce InterviewEase, an AI-driven placement-assistance platform that provides a more structured approach to interview preparation while streamlining the candidate-evaluation process. The authors illustrate an integrated system with NLP-based question generation and automated response analysis-cum-skill mapping algorithms that provide personalized preparation pathways to students. They outline the modular architecture comprising an interview simulation engine, semantic scoring mechanisms, and recommendation components detecting knowledge gaps and suggesting focused improvements. Joshi, Patil, and Verma evaluate the system by conducting controlled testing and report an improvement in the consistency of performance of the students, better alignment with the industry's expectations, and reduced preparation time. They go on to enlist user interface design considerations aimed at making the complex analytics in interview simple for novice users. The paper therefore discusses limitations such as variance in user input quality and dependence on domain-specific training data. The suggested future directions include the extension of the model to multi-round interview simulations, the integration of behavioral analysis modules, and validation of the effectiveness of the platform across diverse academic disciplines and recruiter needs.

III. METHODOLOGY

In the proposed method, the workflow involves the use of artificial intelligence in the multi-stage processing for resume optimization and interview preparation. The architecture of the system has been designed to include the following functional stages:

I. Authentication and User Access

The first step involves authentication using Clerk for secure access to the platform. With authentication complete, users are then able to access a customized dashboard for resume management involving resume ATS checker, creating resume from scratch, and even interview preparation.

II. Resume Optimization and ATS Analysis

The moment a resume is uploaded, the process involves the uploading being parsed by the ATS Checker module. The ATS Checker module sends the resume to the Gemini API, which engages in the in-depth parsing process. Depending on the results gathered from the AI analysis, the software creates discipline measures based on the findings. And the user can also create the resume from scratch based on the job role.

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III. Adaptive Interview Preparation

The interview preparation process adds upon the existing method by enabling the user to fetch artificial questions as per his/her resume or his/her choice of a job profile.

Response Evaluation: The users' responses are logged by them, and they are submitted to the Gemini API for response analysis and generation of feedback.

Data Persistence: The generated results for all suggestions, updated resume information, pairs for interview Q&A, and feedback are stored in a PostgreSQL database using Drizzle ORM.

IV. Iterative Improvement

This ensures a customized experience for the user in which he/she can keep enhancing his/her professional space as well as interview techniques based on continuous feedback from AI.

IV. RESULTS AND DISCUSSION

The Aura AI implementation showcases a tremendous improvement in regards to the efficiency level of applying for a job. The biggest advantage of this technology is that it offers a comprehensive service encompassing resume building, ATS screening, and finally, an interview prep option. The main advantage of this technology over existing processes, which encounter technical difficulties, is that it provides better results in terms of generating resume reports optimized for automatic digital screening compared to resumes designed manually. In addition to that, another feature of this technology, which adds considerable weightage, is its AI-powered technical interview option, which assists candidates in becoming better-prepared by providing customized technical and behavioral questions based on a candidate's skill sets. This technology, in addition to making a candidate better-prepared, also offers a short, efficient, and smart way of preparing, which helps a person market themselves better in this market.

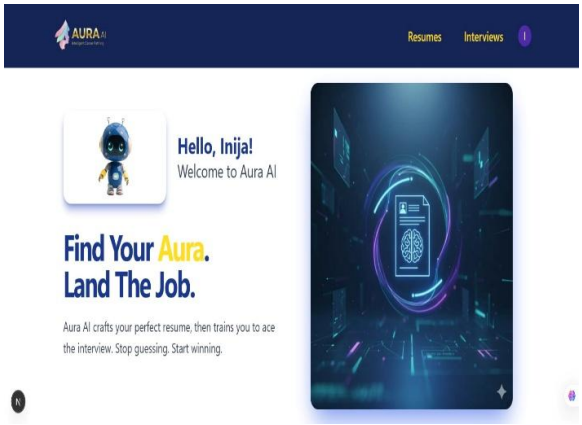

Fig 1: Landing page.

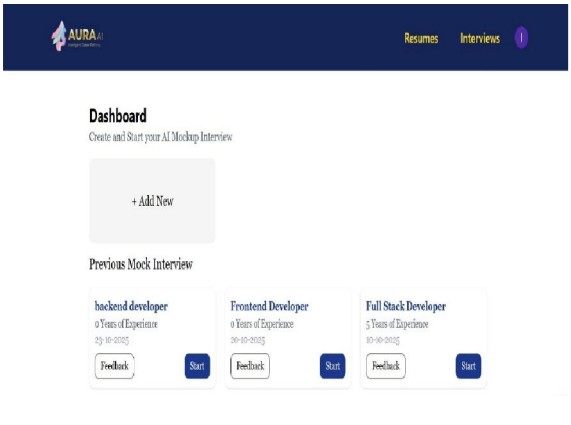

Fig 2: Interview Preparation Dashboard.

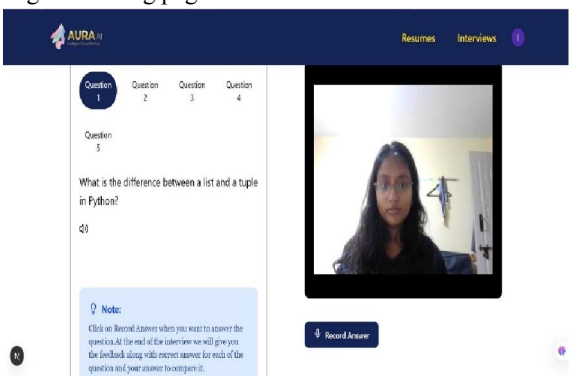

Fig 3: Recording Answers for the Questions.

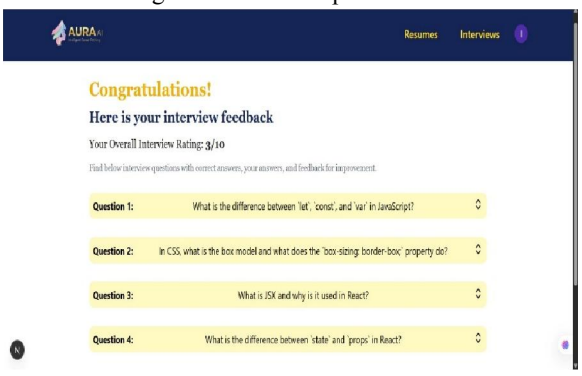

Fig 4: Detailed Feedback along with ratings.

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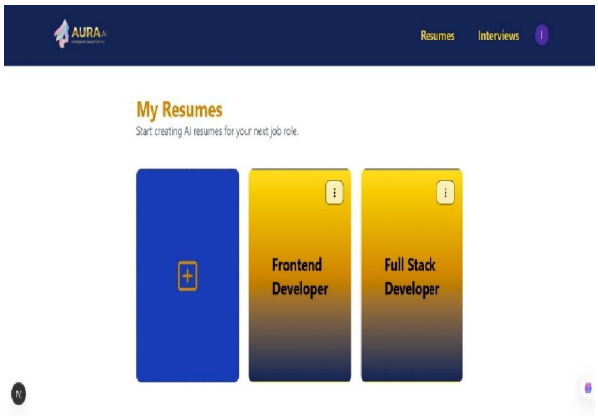

Fig 5: AI resume dashboard for respective job roles.

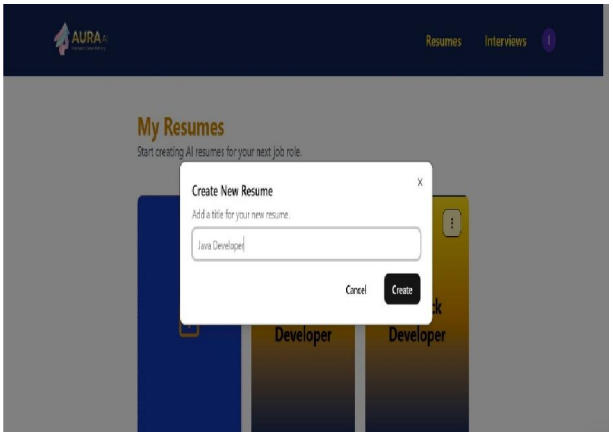

Fig 6: Create new resume.

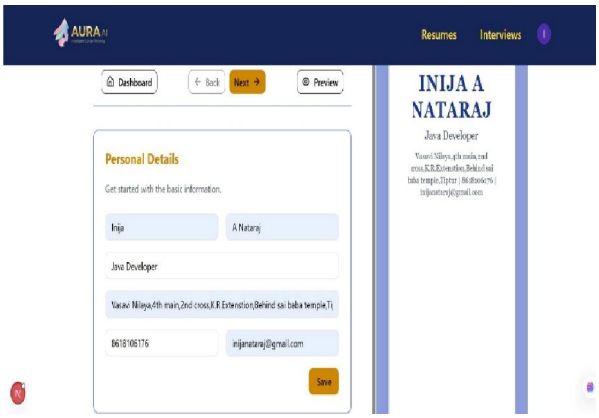

Fig 7: Filling the details of resume with the help of AI .

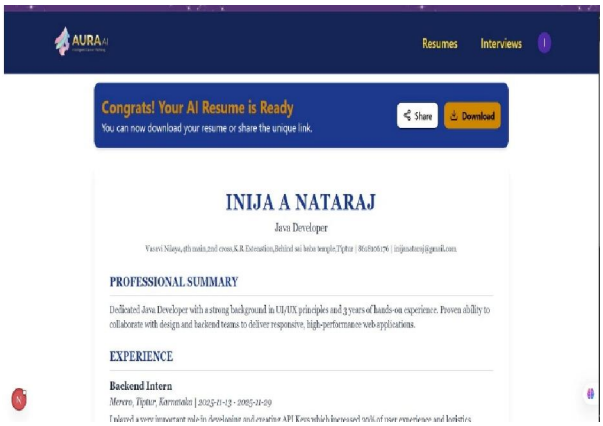

Fig 8: AI Generated Resume is Ready.

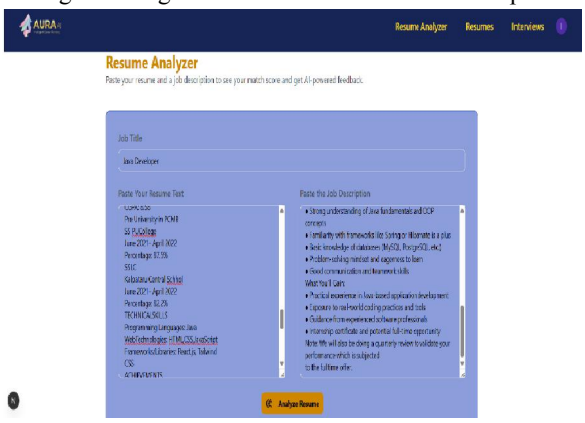

Fig 9: ATS Resume Analyzer.

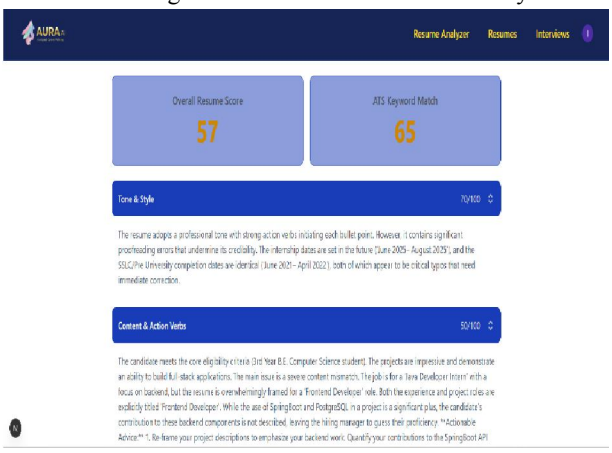

Fig 10: Detailed Feedback of the analyzed resume.

V. CONCLUSION

The current employment market is characterized by stiff competition as well as the extensive use of automated recruitment systems, wherein the conventional approaches to the preparation of one's resume often lack the necessary technical expertise to pass the ATS filter. The current research seeks to solve the abovementioned issues through the

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creation of Aura AI, an integrated system utilizing Generative AI to enhance the candidate to employee transition process by filling the gap between the candidate qualifications and the employer expectations through the preparation of aesthetically appealing as well as technically optimized resumes to be ranked on top within the recruiter databases.

The effectiveness of the created system shows how the Google Gemini API can be utilized to produce industry-aligned resumes and interview readiness with adaptive capabilities. The system takes specific job roles and creates ATS-enabled resumes and automatically produces role-specific interview questions using the candidates' technical and behavioral attributes. The use of real-time analytics such as ATS scoring and readiness assessments makes the interview preparation process, which is quite subjective and disorganized, into a data-driven one that enables the candidate to improve.

From the technological point of view, the project confirms the applicability of the modular approach with the use of Next.js, Drizzle ORM, and the Clerk. Despite the efficiency enhancement in the preparation process achieved with the development of the system, the future improvements will include the capabilities related to speech and emotion recognition using AI and support of multiple languages. In the end, the study confirms the statement that the use of AI in the career development process not only gives the possibility to contestants to compete better but meets the main requirements of the digital workforce.

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