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## A Comprehensive Research on “ScholarSuite: Educating World”

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### ABSTRACT:

In today's competitive job market, students and early-career professionals need to showcase their skills effectively, with resumes serving as a primary tool for self-presentation. While platforms like Canva and Zety offer resume templates, they often fall short in providing personalized guidance, advanced customization, or AI-driven insights to align resumes with industry standards and job requirements. This research introduces ScholarSuite, an AI-powered resume builder crafted specifically for students and early-career professionals. Utilizing a robust tech stack with React, Strapi, and MySQL, ScholarSuite offers optimized templates, personalized recommendations, and targeted industry insights to improve resume quality. This study includes a comparative analysis of current resume-building tools, identifying gaps that ScholarSuite addresses. Initial findings show that ScholarSuite significantly enhances resume relevance and quality, making it a promising advancement in automated resume-building technology.

**Keywords:** Resume Builder, Industry Standards, Content Customization, User Confidence, Real-Time Feedback, User-Friendly Interface, Template Flexibility, Student Career Support, ATS Optimization, Personalized Suggestions.

### 1. Introduction

In today's highly competitive job market, creating a standout resume is essential, particularly for students and early – career professionals who may have limited work experience but possess valuable skills, academic achievements, and project – based knowledge. Traditional resume-building methods often fall short in guiding users through modern requirements like ATS compatibility and industry – specific keywords, leaving many applicants at a disadvantage. ScholarSuite, our AI – driven resume builder, is designed to address these challenges by offering an intuitive platform tailored specifically for students and recent graduates. Leveraging artificial intelligence, ScholarSuite provides real – time content suggestions, customizable templates, and keyword optimization, helping users craft resumes that meet industry standards while reflecting their unique strengths. This project aims to bridge the gap between academic accomplishments and professional aspirations, empowering users to build resumes that resonate with recruiters and open doors to career opportunities.

### 2. Objective

Many students and early – career professionals struggle to create professional, ATS – friendly resumes. Existing platforms are often general – purpose and don't provide tailored guidance, leading to missed opportunities in job applications. The primary objective of ScholarSuite is to empower users to create impactful resumes using AI – driven suggestions. Specific objectives include:

1. Offering an intuitive interface that enables resume customization.
2. Integrating AI – based suggestions for wording, formatting, and keyword optimization.
3. Providing students with templates and options that showcase their unique experiences, skills, and academic achievements effectively.
4. Ensuring compatibility with ATS by guiding users in structuring their resumes in ways that meet current industry standards.

### 3. Problem Formulation

The development of *ScholarSuite*, targets three core challenges faced by students and early-career professionals when creating effective resumes. These challenges are:

### 3.1 Lack of Personalization in Existing Resume Builders

Most existing resume- often have diverse academic and professional backgrounds, skills, and career goals, which require building platforms, such as Canva and Zety, focus on providing aesthetically pleasing templates but fall short when it comes to personalizing the content for individual users. Users tailored resume suggestions to accurately represent their strengths. Without personalization, resumes may appear generic, reducing the user's chances of standing out to hiring managers.

### 3.2 Difficulty in Aligning Resumes with Industry Standards

Industry expectations for resumes vary across fields and roles, with specific keywords, skills, and formats being preferred by hiring managers. For example, resumes for technical roles might prioritize technical skills and project details, while those for marketing roles might emphasize creativity and analytical skills. However, students and early-career professionals often lack the insight needed to align their resumes with these standards, which can result in missed opportunities for otherwise qualified candidates.

### 3.3 Limited Guidance on Highlighting Relevant Skills and Achievements

For students and those at the start of their careers, it can be challenging to identify and showcase relevant skills and achievements, particularly if they have limited work experience. Without proper guidance, they may overlook important experiences—such as internships, academic projects, or volunteer work—that could add value to their resumes. Additionally, many existing tools do not provide specific suggestions on structuring these experiences, leading to a lack of clarity and impact in resumes.

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## 4. Literature Review

When it comes to creating resumes, automated tools have made the process more accessible but often lack deeper customization and intelligence. To understand how *ScholarSuite* can offer a more valuable experience, we investigated existing tools and recent advancements in AI and machine learning that are shaping resume building and content customization.

Several popular resume-building platforms, such as Canva and Zety, are widely used for their convenience and design-focused templates. However, studies and user feedback reveal several gaps:

- **Limited Personalization:** Most existing tools provide only static templates without tailored suggestions based on a user's specific experiences, strengths, or the job role they are applying for.
- **Absence of Intelligent Content Recommendations:** Many tools rely solely on user inputs, meaning they lack algorithms to analyze industry expectations or job-specific requirements.
- **Minimal Guidance for Entry-Level Users:** Students and young professionals often struggle to identify which skills or experiences to emphasize, a gap existing tools fail to address.

To develop features that go beyond templates, we examined the strategies used by educational platforms like Quizlet and Khan Academy, which are recognized for their adaptive learning and content structuring.

- **Personalized Learning Paths:** Platforms like Quizlet create customized learning experiences by analyzing user input and adapting content based on their progress.
- **Modular and Contextual Content Suggestions:** Khan Academy's approach to structuring learning modules based on individual learning levels inspired *ScholarSuite's* adaptive suggestions for skills and experiences that are most relevant for each user.

**Advances in AI and NLP for Content Optimization:** AI and Natural Language Processing (NLP) are key in providing content recommendations and customization. Recent research highlights several AI models and techniques that we leveraged for *ScholarSuite*:

- **GPT Models for Text Analysis:** GPT (Generative Pre-trained Transformer) have revolutionized how machines understand text. By analyzing resumes and job descriptions, these models can recommend keywords, phrases, and formats relevant to different industries.
- **Recommendation Algorithms for Skill Development:** Studies on recommendation systems, such as those used by LinkedIn, focus on suggesting job-specific skills based on user profiles. This helped in designing *ScholarSuite's* algorithms to recommend skill-based accomplishments that align with industry needs.

**Insights from Resume Optimization Research:** Finally, previous research on automated resume optimization provided insights into what makes an effective resume. Key findings include:

- **Importance of Keywords and Relevance:** Research shows that resumes with keywords closely matching the job description perform better in applicant tracking systems (ATS).

- **Emphasis on Quantifiable Achievements:** Recruiters prefer resumes that showcase quantifiable achievements (e.g., "Increased sales by 20%") over generalized statements. This guided *ScholarSuite* to suggest metrics and achievements to help users strengthen their resumes.

By understanding these tools, platforms, and AI techniques, we designed *ScholarSuite* to provide tailored, relevant, and intelligent resume-building assistance that caters specifically to students and early-career professionals. This foundation in both technology and user needs forms the backbone of *ScholarSuite*, setting it apart from traditional resume-building tools.

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## 5. Methodology

The methodology for developing *ScholarSuite* involved a structured approach to selecting technologies, integrating system components, and designing a user-focused interface. By leveraging React, Strapi, and MySQL, the platform delivers a seamless resume-building experience tailored to students and early-career professionals. Below is a breakdown of the methodology applied in each phase of development:

### 1. Technology Stack Selection

- **Frontend with React:**  
React was chosen for the frontend due to its efficient component-based architecture. This setup allows for the development of interactive, reusable UI elements that enhance user experience. React's virtual DOM ensures that user interactions, such as real-time edits and instant feedback, are smoothly rendered on the interface, making it easier for users to build and refine their resumes without delays.
- **Backend with Strapi:**  
Strapi was selected as the backend framework for its headless CMS capabilities, which support seamless content management and integration with the frontend. Strapi enables efficient handling of API requests and offers robust content management, allowing quick deployment of updates and simplified scalability for future improvements. By managing API requests between the frontend and backend, Strapi efficiently retrieves user data and sends personalized content suggestions in real time.
- **Database with MySQL:**  
MySQL, a widely used relational database, was chosen for managing *ScholarSuite*'s data requirements. MySQL's structured data storage supports user-specific information, resume templates, and content suggestions. This setup allows for complex data queries, making it easy to retrieve, update, and manage information in a way that enhances the platform's functionality and ensures consistent data integrity.

### 2. System Integration

- **API Integration:**  
The platform's architecture relies heavily on API endpoints, created to facilitate communication between Strapi and React. Each API endpoint is designed to handle specific data requests, such as retrieving a user's resume template or providing content suggestions based on user input. This modular approach ensures that each component functions independently while maintaining cohesive data flow, enabling the frontend to receive prompt and accurate responses from the backend.
- **Backend and Database Synchronization:**  
Strapi manages data requests, processing user inputs and communicating with MySQL to retrieve and store data effectively. When a user enters information into the resume builder, the backend server interacts with the database to pull relevant data, such as templates or keyword suggestions. The server then sends this data to the frontend for display, ensuring a fluid, responsive experience for the user. The coordinated backend and database setup also support scalability by allowing seamless updates to the database structure as the platform evolves.
- **Template Database:**  
To meet the diverse needs of users, a library of resume templates has been curated, covering various industries and experience levels. MySQL stores these templates, allowing Strapi to retrieve them based on user selection. Each template is designed to be flexible, enabling users to populate them with their information. This template database is structured to make retrieval efficient, ensuring users can quickly find and apply templates that best suit their goals.

### 3. Frontend Development and User Interface Design

- **Dynamic Editing Interface:**  
The frontend was designed to offer a user-friendly, interactive editing experience using React. Each section of the resume builder—such as work experience, education, and skills—is modular, allowing users to edit specific parts independently. This setup, enhanced by Tailwind CSS styling, creates a responsive and intuitive interface where users can make changes quickly and view suggestions without needing to reload or navigate away from the page. React's virtual DOM enables real-time updates, allowing users to see changes immediately.
- **Real-Time Content Suggestions:**  
A core feature of *ScholarSuite* is its ability to provide live feedback as users edit their resumes. As users type in their information, the interface dynamically offers keyword suggestions, phrase adjustments, and skill recommendations based on their target industry. This is achieved by sending user inputs through API requests to the backend, where relevant suggestions are retrieved from the database and

displayed on the frontend. By offering content recommendations in real time, *ScholarSuite* helps users streamline the resume-building process and create a more compelling document with minimal trial and error.

- **User Dashboard and Management Tools:**

To support user workflow, *ScholarSuite* includes a dashboard where users can manage multiple resume drafts, track changes, and analyze keyword usage. The dashboard provides a consolidated view of resume versions, allowing users to experiment with different formats or tailor resumes for specific job applications. Users can view analytics on keywords commonly used in their target field, helping them understand how to strengthen their resumes for better alignment with industry standards.

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## 6. Result Discussions

### 1. Improvement in Resume Quality

- **Alignment with Industry Standards:** Users found that their resumes better matched industry-specific keywords and formatting guidelines, thanks to *ScholarSuite*'s targeted content suggestions. With recommendations aligned to skills and accomplishments that resonate with applicant tracking systems (ATS), resumes built in *ScholarSuite* demonstrated improved structure and relevance compared to manually crafted ones.
- **Enhanced Content Customization:** The AI-based recommendations in *ScholarSuite* empowered users to customize content more effectively, highlighting unique skills and experiences tailored to specific job roles. Unlike traditional resume builders, *ScholarSuite* provided personalized guidance, helping users craft resumes that were more impactful and targeted to their career goals.

### 2. Increased User Confidence

- **Guided Suggestions and Clarity:** Users reported increased confidence in their resumes due to the AI-driven suggestions, which clarified which achievements and skills to emphasize. For many students, *ScholarSuite* helped alleviate uncertainties around content inclusion by providing clear guidance on showcasing their strengths and accomplishments.
- **Positive Feedback on Real-Time Assistance:** The real-time feedback feature was highly valued, as it allowed users to make immediate improvements. By acting as an in-tool advisor, *ScholarSuite* minimized the need for external help, offering prompt modification suggestions as users input their information.

### 3. User Satisfaction with Ease of Use

- **Intuitive Interface:** Built with React and styled with Tailwind CSS, *ScholarSuite*'s dynamic and user-friendly interface was well-received. Users, especially those with limited experience in resume writing, found the resume creation and editing process straightforward and intuitive.
- **Streamlined Process:** The capability to save multiple drafts and experiment with different templates made the resume-building experience smoother. Users appreciated the flexibility this feature provided, enabling them to explore various formatting styles before finalizing the most effective one.

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## 7. Conclusion

In conclusion, *ScholarSuite* represents a significant advancement in the resume-building process for students and early-career professionals by leveraging artificial intelligence and natural language processing to provide a personalized, user-friendly experience. It effectively addresses common challenges faced by users, improving the quality and relevance of resumes while instilling greater confidence in the job application process. With tailored content suggestions, real-time feedback, and industry-specific guidance, *ScholarSuite* stands out from traditional platforms. Looking ahead, there is potential for further growth by enhancing algorithm capabilities, expanding the database, and incorporating user-requested features. Ultimately, *ScholarSuite* empowers users to create impactful resumes, significantly enhancing their chances of success in a competitive job market.

## 8. Acknowledgement

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