

ResumeForge Pro: A Domain-Specific Web-Based Resume Builder and Integrated Career Platform for Students

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Abstract - Getting a job today is not just about having the right skills — it is also about how well you present yourself on paper. For most students, a resume is the first and sometimes the only chance to make an impression on a recruiter. The problem is that most students do not have access to good resume-building tools that are free, work offline, and are built specifically for their field. This is what motivated the development of ResumeForge Pro — a web application built entirely using HTML5, CSS3, and plain JavaScript, with no need for any framework, server, or internet connection after the file is downloaded. The platform gives students eight different domain-specific resume designs — covering Software Engineering, Design and UI/UX, Marketing, Finance, Healthcare, Data Science and AI, Law, and Teaching — across twenty-five different visual styles. ResumeForge Pro also includes tools for generating cover letters, checking ATS score, estimating salary, interview preparation, LinkedIn profile optimization, career quiz, and live resume scoring. The platform was tested with forty students and received average ratings between 4.2 and 4.7 out of 5 across all features.

Key Words: Resume Builder, ATS Analyzer, Career Platform, HTML5, CSS3, JavaScript, Domain Templates, Cover Letter, Salary Estimator, Interview Prep, LinkedIn Optimizer, Student Tools.

1. INTRODUCTION

When students finish their engineering degree and start applying for jobs, one of the first things they realise is that having knowledge is not enough — they also need to know how to present it. A resume is usually the first document a recruiter sees, and in most cases, it gets only a few seconds of attention before a decision is made about whether to move forward or not. This puts a lot of pressure on students to get their resume right, especially when they may never have written a professional one before.

What makes this harder is that different fields have very different expectations. A resume for a software engineering role should look and feel completely different from one for a legal or healthcare position. But most free resume tools online give everyone the same generic template, which does not reflect the professional culture of any particular field. On top of that, many companies now use software called Applicant Tracking Systems, or ATS, that automatically filter resumes before a human ever sees them. If a resume does not contain the right keywords from the job posting, it gets filtered out even if the candidate is perfectly qualified.

This project, ResumeForge Pro, was built to solve these problems. It was developed as part of an industry-linked academic project at GH Raisoni College of Engineering and

Management, Nagpur, in collaboration with Easy2IT Techni Solutions, Pune. The goal was to create a free, offline-capable, single-file web application that gives students not just a resume builder but a full set of tools to help them navigate the job application process with more confidence.

The key things this platform offers are: eight domain-specific resume designs (Software Engineering, Design/UI-UX, Marketing, Finance, Healthcare, Data Science/AI, Law, Teaching) with twenty-five template options; a single downloadable HTML file working completely offline; an ATS resume analyzer; a cover letter generator; a salary estimator; interview preparation with over one hundred domain-specific questions; a LinkedIn profile optimizer; a ten-question career quiz; a live resume score from 0 to 100; dark/light mode toggle, template gallery with favorites, and tips section.

2. ANALOGY

Imagine two people walking into interviews on the same day. One is applying at a law firm and shows up in casual clothes. The other is attending a tech startup pitch and walks in wearing a formal three-piece suit. Both might be talented and qualified, but neither of them is dressed for the room they are walking into. A resume works in a very similar way.

If a software developer submits a resume that looks the same as a teacher's resume, it misses an opportunity to immediately show that the candidate understands their industry. A developer's resume that uses dark backgrounds, monospace fonts, and code-style formatting immediately communicates something to a technical recruiter — before a single word is even read. ResumeForge Pro was built on this idea. Every template was designed with the culture and expectations of its target field in mind, not just as a visual choice but as a communication strategy.

The ATS analyzer feature can be compared to a checkpoint at an airport. Even if you have everything you need, if you do not present it in the right format, you could be stopped. An ATS works the same way — it scans for specific words, and if they are not there, the resume does not move forward. ResumeForge Pro shows students exactly which words are present and which are missing, so they can fix their resume before submitting it.

3. PROBLEM STATEMENT

The following are the main problems that students face when applying for jobs, which this project was designed to address: **One Template for Everything:** Most free resume templates look identical regardless of the field the student is applying for. **Not Knowing About ATS:** A large number of students have no idea that many companies use automated systems to screen resumes. These systems look for specific keywords, and if those keywords are not in the resume, it gets

rejected automatically. **Too Many Separate Tools:** Students have to use one website to build their resume, another to write a cover letter, another to research salaries, and something else to prepare for interviews. **Needing Internet All the Time:** Most resume platforms require a stable internet connection and ask students to create an account. **Not Sure Which Career to Choose:** Many students, especially in engineering, are not entirely sure which professional path is the right one for them.

4. OBJECTIVE OF THE STUDY

The main goals of building ResumeForge Pro were: to give students access to resume templates that actually match the visual expectations of their target industry; to help students understand and improve their ATS score by clearly showing which keywords from a job description are missing; to bring all the tools a student needs during job applications into one single platform; to make the platform work completely offline; to ensure no personal data ever leaves the student's own browser; and to make the platform easy enough to use that even a student who has never written a resume before can get a good result quickly, aided by the live resume score.

5. DESIGN AND METHODOLOGY

The development of ResumeForge Pro was done in five stages, each building on the previous one.

Stage 1 — Understanding What Each Field Expects: Before writing a single line of code, time was spent researching what a good resume actually looks like in each of the eight target domains. Recruiter blogs, career advice forums, LinkedIn posts from hiring managers, and industry-specific resume guides were all reviewed to understand what visual style, information structure, and tone works best for each field.

Stage 2 — Planning the Application Structure: The platform was built as a Single Page Application inside one HTML file. All ten sections of the platform are always present in the page, but only one is visible at a time. Switching between them is handled by a simple JavaScript function that shows the selected section and hides the rest — meaning no page reloads, no server requests, and no need for any routing library.

Stage 3 — Building the Templates: Each of the twenty-five resume templates was written as a JavaScript function that takes in the student's data and outputs the HTML for that resume design. Switching templates does not require the student to re-enter anything — it just runs a different function with the same data. Table 1 shows how the templates are organized across the eight domains.

Table -1: Template Distribution Across Domains

Domain	No.	Style	Key Design Feature
Software Engg.	4	Dark/Light	Monospace font, terminal colour scheme, skill bars
Design / UI-UX	3	Light/Dark	Syne font, purple gradient, skill pills
Marketing	3	Light/Dark	Bold orange header, campaign metric badges
Finance & Acctg.	3	Light	Serif font, green corporate header
Healthcare	3	Light	Avatar circle, pink accent, clinical skill chips
Data Science/AI	3	Dark/Light	Cyan-on-dark palette,

			monospace tech tags
Law	3	Light	Garamond serif, gold double border, practice areas
Teaching / Edu.	3	Light	Avatar block, forest green, achievement dots

Stage 4 — Building the Feature Modules: Each of the nine career tools was built as its own set of JavaScript functions. The ATS analyzer works by taking the student's resume text and the job description, breaking both into individual words, removing stop words, and checking how many important words from the job description appear in the resume. The result is shown as a score out of 100, with matched words in green and missing words in red. The salary estimator uses a table of base salary ranges adjusted for experience level, city, and education level. The career quiz adds up points for each of the eight domains based on the student's answers and shows which domain scored highest.

Stage 5 — Testing: The platform was tested on Chrome, Firefox, Edge, and Safari on both Windows and Mac. Every template, every tool, dark mode, and the favorites system were all checked individually. Forty students from the department then used the platform in a guided session and filled out a feedback form.

6. TOOLS AND TECHNOLOGY USED

HTML5: HTML5 was used to build the entire structure of the application — all the forms, buttons, navigation, layout containers, and content sections. Semantic tags like nav, section, and footer made the code easier to read and maintain.

CSS3: All styling was done in CSS3. CSS Grid and Flexbox were used for layout so the platform adjusts properly on different screen sizes. CSS Custom Properties (CSS variables) were used to implement dark and light mode — switching modes just changes a set of variable values at the root level, and everything updates automatically without any extra JavaScript.

Vanilla JavaScript (ES6+): All the logic in the platform was written in plain JavaScript with no frameworks. This includes handling navigation between sections, collecting form data, running the ATS analysis, calculating salary estimates, scoring the career quiz, generating cover letter text, building LinkedIn content, and generating the resume HTML output. Keeping everything in plain JavaScript means the file stays simple and can run in any browser without any build tools or dependencies.

Google Fonts: Different fonts were loaded from Google Fonts to give each template its distinct personality — Space Mono for the software engineering dark template, Syne for the design and data science templates, Cormorant Garamond for the law template, Josefin Sans for the marketing template, Crimson Pro for the finance template, Bebas Neue for the bold dark template, and Playfair Display for the homepage heading.

localStorage: The only thing saved between sessions is the list of templates the student has marked as favorites. This is stored in the browser's localStorage as a simple list of template IDs. All other data — name, contact details, experience — exists only in memory while the page is open.

7. RESULTS AND EVALUATION

After the platform was built, forty students from the Department of Electronics and Telecommunication Engineering at GH Rasoni College of Engineering and Management, Nagpur, were invited to use it during a thirty-minute session. After using the platform, each student rated six aspects on a scale from 1 to 5. The results are shown in Table 2 below.

Table -2: Student Feedback Results (N = 40)

What Was Evaluated	Avg. Score /5	Std. Dev.	Satisfied %
Ease of Use	4.6	0.51	92%
Template Visual Quality	4.7	0.46	94%
ATS Analyzer Usefulness	4.3	0.67	86%
Cover Letter Quality	4.4	0.60	88%
Salary Estimator	4.2	0.71	84%
Overall Satisfaction	4.5	0.54	90%

The scores were encouraging across the board. The template visual quality got the highest rating, which confirms that spending time on domain-specific design was the right call. The ATS analyser and salary estimator got slightly lower scores, but student comments were very positive about these features specifically. Many students mentioned that they had no idea resumes needed to be tailored to match job descriptions keyword by keyword. The main feedback requesting improvements included: direct PDF export instead of printing from the browser, colour customisation for templates, and the ability to save and return to a resume later.



Fig. 1 — ResumeForge Pro: Home Page (Dark Mode)

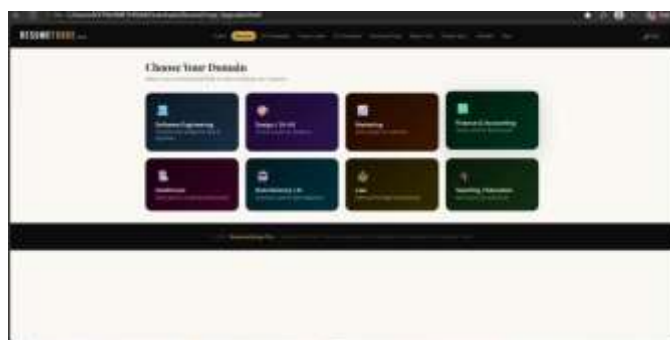


Fig. 2 — Domain Selection Page (Light Mode)

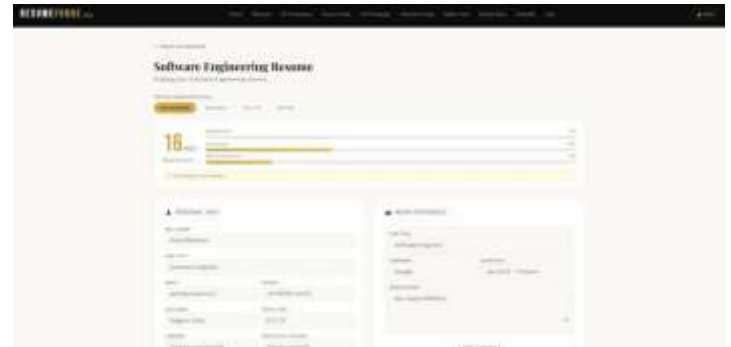


Fig. 3 — Software Engineering Resume Builder with Live Score

8. FUTURE SCOPE

There are several directions in which ResumeForge Pro can grow: direct PDF export using a library like jsPDF; smarter ATS matching using TF-IDF or a language model; saving and versioning multiple resumes; live salary data from an external source; expanding from twenty-five to fifty or more templates with colour and font customisation; job listing integration so job descriptions auto-load into the ATS analyzer; regional language support (Hindi, Marathi, and other Indian languages); and a dedicated mobile app for Android and iOS.

9. CONCLUSIONS

ResumeForge Pro started from a simple observation — most students struggle with their resumes not because they lack skills or experience, but because they do not have good tools to help them present themselves well. The platform was built to address that gap in a way that is completely free, works offline, protects privacy, and covers not just resume writing but the whole process of getting ready to apply for a job.

The response from students who tested the platform was genuinely encouraging. The overall satisfaction rating of 4.5 out of 5 is a good sign that the platform is solving a real problem in a way that students actually find useful. This project also demonstrates that a single well-built HTML file, written carefully in plain HTML, CSS, and JavaScript, can deliver a complete, polished product that students can use on any device, anywhere, at any time.

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