



AI-POWERED PDF RESUME ANALYZER

AI-Based Resume Analysis and Scoring System | Digital Summit 2025



Goal

In this hands-on lab, you will build an **AI-powered Resume Analyzer** that allows users to upload a resume and receive instant, AI-generated insights. The application uses **Google Gemini AI** to analyze resume content, identify key skills and experience, and generate a **resume score with improvement suggestions**. By the end of this lab, you will understand how to integrate **Google Generative AI (Gemini API)**, design prompts for AI-based analysis, and build a simple web interface that converts **unstructured resume data into structured insights**.

Pre-Requisites

- Node js
- Google account (for API Key)

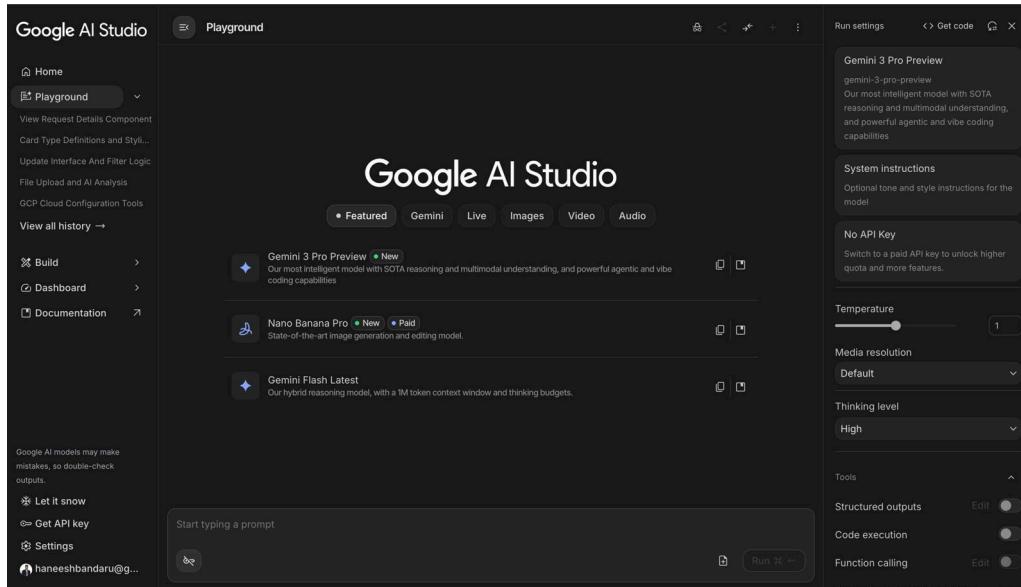
Technology Involved

1. React
2. Google Gemini AI

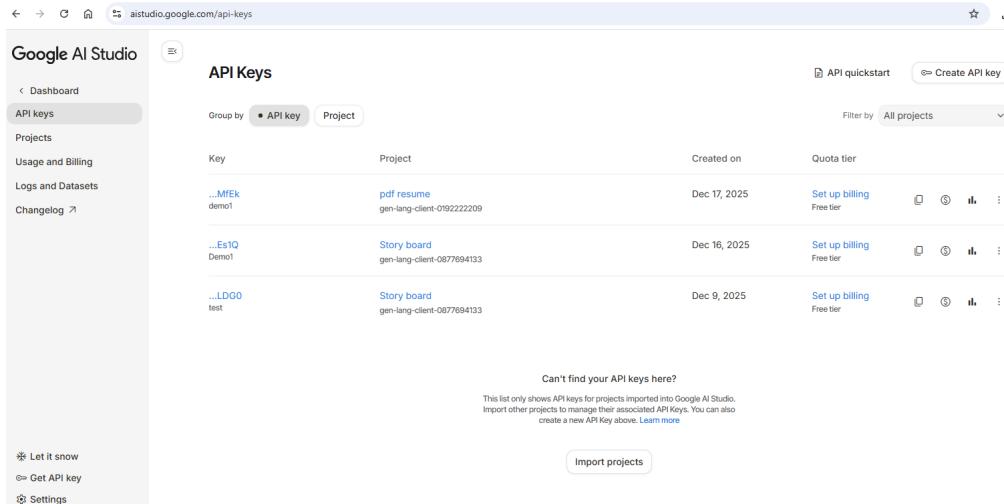
Lab Steps

Step 1: Get Google Gemini API Key

1. Go to **Google AI Studio**



2. Create / select a project
3. Generate an **API Key**
4. Copy the key



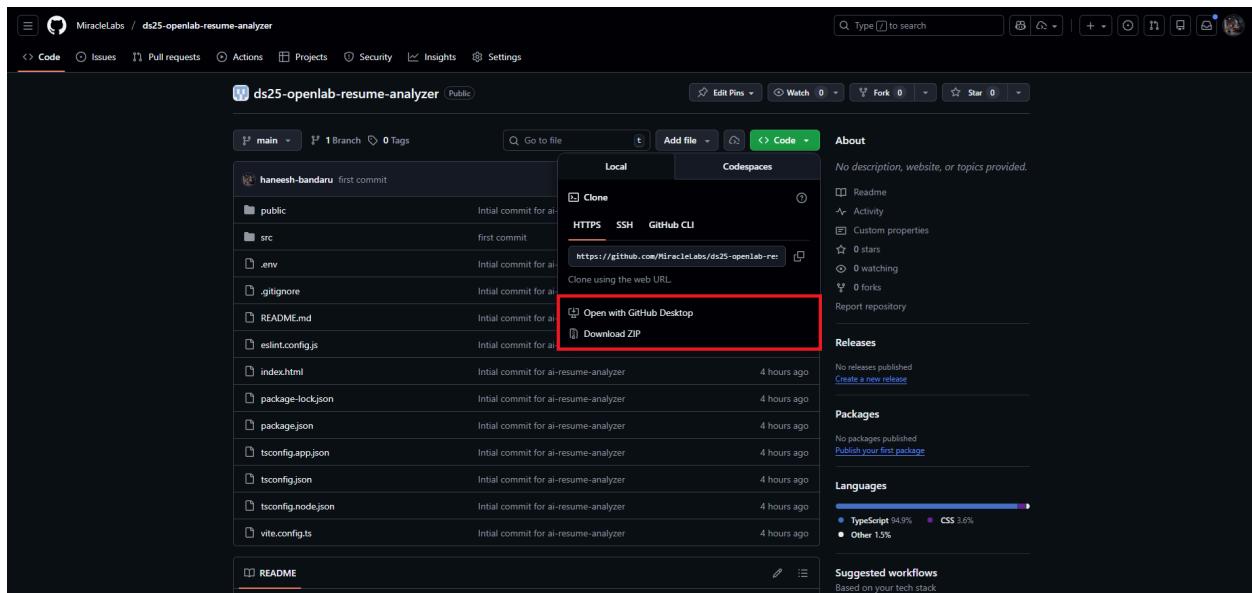
The screenshot shows the Google AI Studio API Keys page. It lists three API keys:

- pdf resume** (gen-lang-client-092222209) created on Dec 17, 2025, in the Set up billing Free tier.
- Story board** (gen-lang-client-0877694133) created on Dec 16, 2025, in the Set up billing Free tier.
- Story board test** (gen-lang-client-0877694133) created on Dec 9, 2025, in the Set up billing Free tier.

Below the table, there's a message: "Can't find your API keys here? This list only shows API keys for projects imported into Google AI Studio. Import other projects to manage their associated API Keys. You can also create a new API Key above. [Learn more](#)".

Step 2: Clone the Repository

- git clone or download as zip :[Link](#)



The screenshot shows the GitHub repository page for `ds25-openlab-resume-analyzer`. The repository is public and has 1 branch and 0 tags. The main branch contains several commits from `haneesh-bandaru`. On the right side, there's a "Clone" section with options for HTTPS, SSH, and GitHub CLI. The "Download ZIP" button is highlighted with a red box. The repository details include sections for About, Releases, Packages, Languages, and Suggested workflows.

- cd `ds25-openlab-resume-analyzer`

Step 3: Install Dependencies

- npm install

Step 4: Configure Environment Variables

Create a file named **.env** in the project root:

- VITE_API_KEY=your_google_gemini_api_key

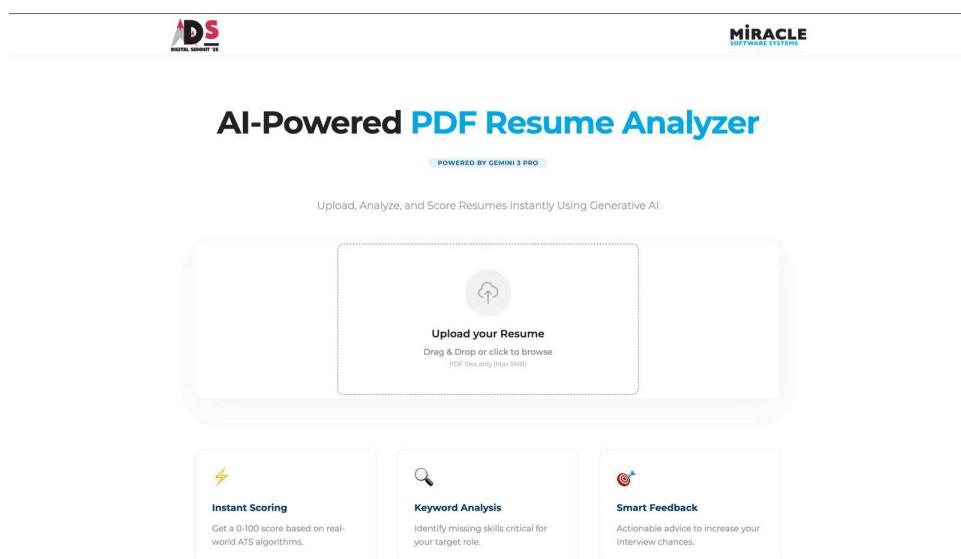
Step 5: Run the Application

- npm run dev

Step 6: Open in Browser

- Local URL: <http://localhost:5173>

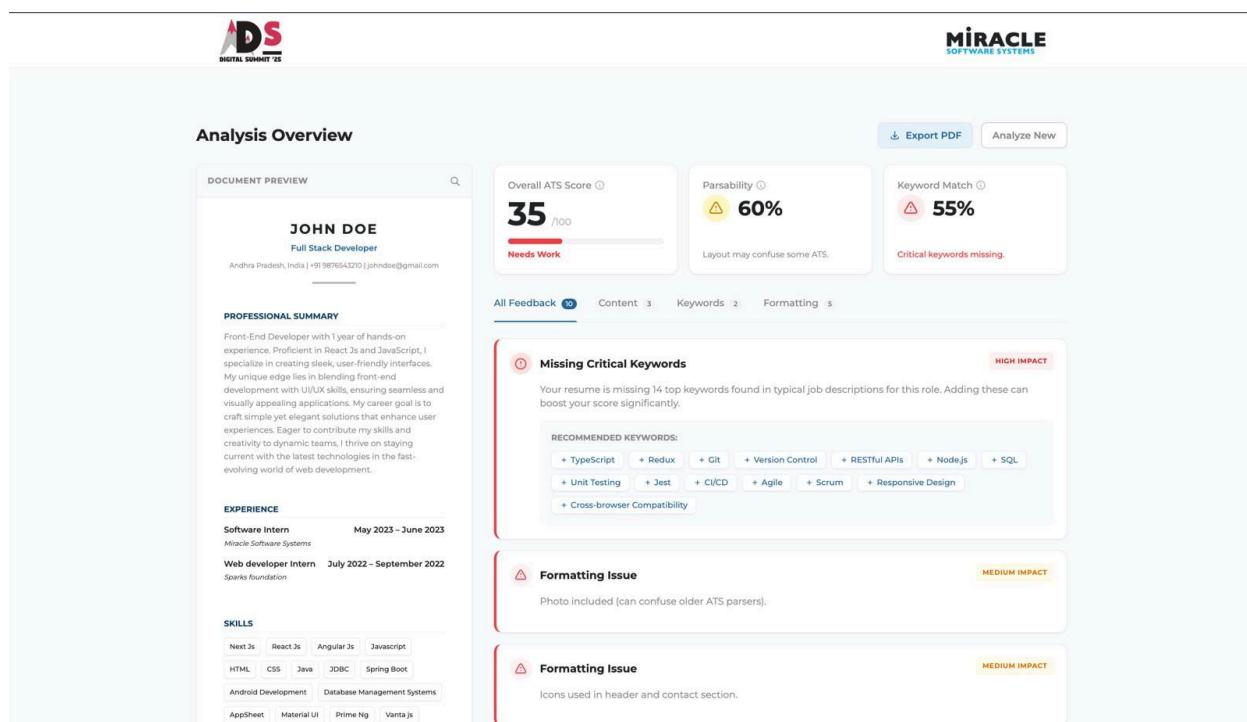
Open this in your browser.



The screenshot shows the AI-Powered PDF Resume Analyzer interface. At the top left is the ADS logo (Digital Velocity '23). At the top right is the Miracle Software Systems logo. The main title "AI-Powered PDF Resume Analyzer" is centered above a "POWERED BY GEMINI 3 PRO" badge. Below the title is a sub-instruction: "Upload, Analyze, and Score Resumes Instantly Using Generative AI". The central feature is a large white rectangular input field with a dashed border, containing a small circular icon with a hand cursor and the text "Upload your Resume" and "Drag & Drop or click to browse". Below this are three smaller cards: "Instant Scoring" (with a lightning bolt icon), "Keyword Analysis" (with a magnifying glass icon), and "Smart Feedback" (with a target icon). Each card has a brief description below it. The entire interface is set against a light gray background.

Step 7: Test the Application

- Upload a your resume PDF
- Click Analyze Resume
- Let the AI process your resume
- View:
 - Resume's ATS Score
 - Parsability
 - Keyword match
 - Detailed analysis of your resume containing feedback.



The screenshot shows the 'Analysis Overview' page of the resume analysis tool. At the top, there's a 'DOCUMENT PREVIEW' section showing a sample resume for 'JOHN DOE', a 'Full Stack Developer' from Andhra Pradesh, India. Below this is a 'PROFESSIONAL SUMMARY' section with a detailed description of the developer's experience and skills. The main analysis summary at the top right shows:

- Overall ATS Score:** 35 /100 (Needs Work)
- Parsability:** 60% (Layout may confuse some ATS.)
- Keyword Match:** 55% (Critical keywords missing.)

Below the summary, there are three detailed feedback sections:

- Missing Critical Keywords (HIGH IMPACT):** Your resume is missing 14 top keywords found in typical job descriptions for this role. Adding these can boost your score significantly. Recommended keywords include TypeScript, Redux, Git, Version Control, RESTful APIs, Node.js, SQL, Unit Testing, Jest, CI/CD, Agile, Scrum, Responsive Design, and Cross-browser Compatibility.
- Formatting Issue (MEDIUM IMPACT):** Photo included (can confuse older ATS parsers).
- Formatting Issue (MEDIUM IMPACT):** Icons used in header and contact section.

Hope you enjoyed analysing your resume!