

Resume Parser & ATS Scoring System

Convert unstructured resumes into structured AI-powered profiles

Powered By

Google Cloud Vision AI | Google Vertex AI

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Problem Statement



Challenges in Resume Screening

Recruiters face major problems while handling large volumes of resumes:

Manual Screening is Slow

Reading each resume manually is time-consuming and inefficient.

Skill Identification is Hard

Extracting real technical skills from text requires intelligence.

No ATS Compatibility Insight

Recruiters cannot easily evaluate whether resumes are ATS (Applicant Tracking System) friendly.

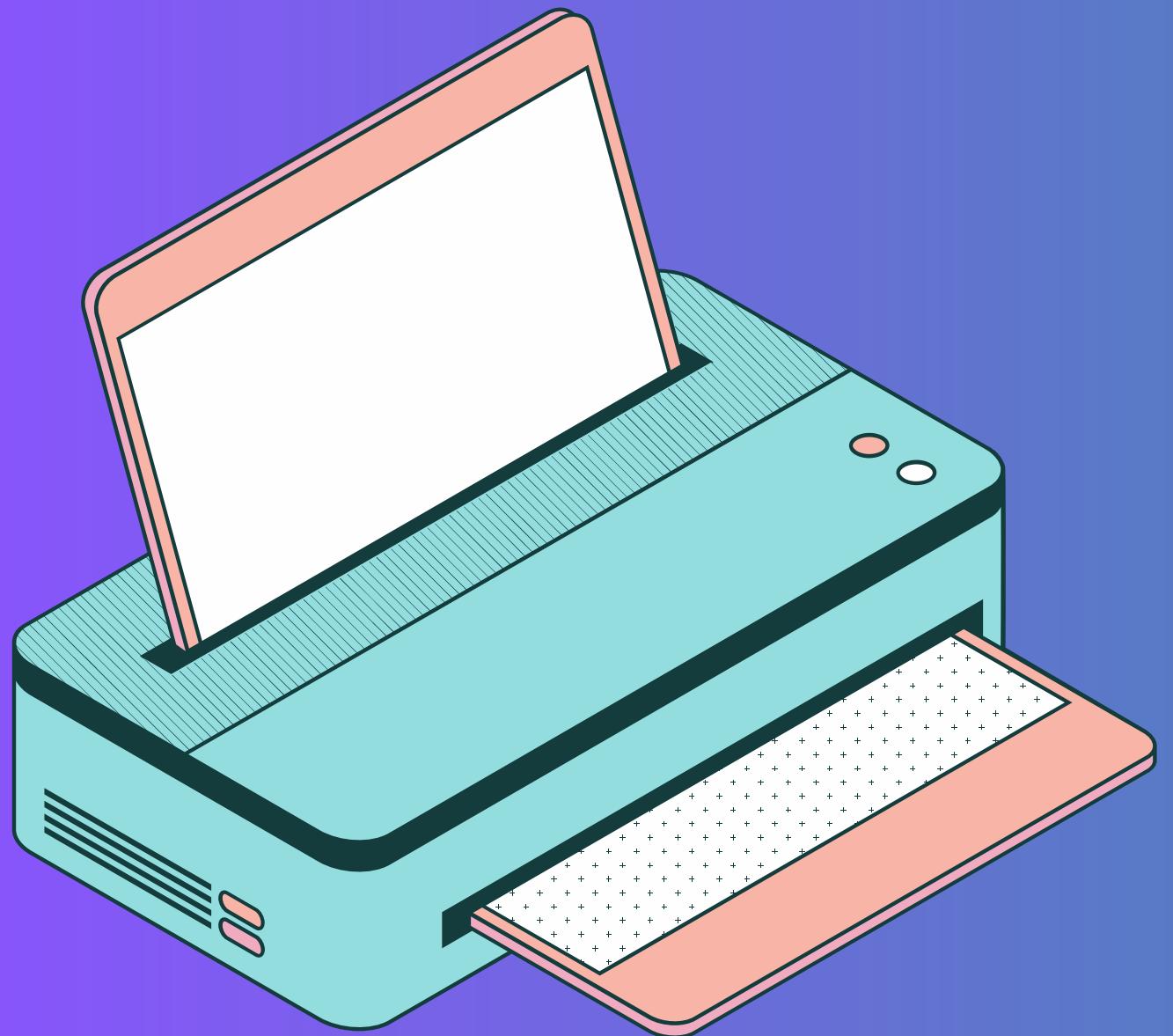
Lack of Structured Output

Companies need JSON/profile data for automation, but resumes are plain text.

Result

Hiring becomes slow, error-prone, and inefficient, leading to delayed recruitment decisions.

Our Solution



AI-Powered Resume Parser & ATS Scoring System

We built an intelligent system that converts raw resumes into structured, meaningful candidate profiles.

What Our Solution Does

- Uploads resume (PDF / scanned supported)
- Extracts candidate details automatically
- Detects technical & relevant skills using AI
- Calculates ATS compatibility score
- Displays HR-friendly dashboard

How It Helps

- Eliminates manual screening effort
- Saves recruiter time
- Improves hiring accuracy
- Enables automation & digital hiring

Outcome

A fast, reliable and AI-driven resume screening system ready for real-world recruitment.

Technology Stack

AI & NLP

- Google Cloud Vision AI (OCR)
- Google Vertex AI (Skill Intelligence)
- spaCy + Regex (Text Processing)
- Rule-Based Enhancements

Backend

- Python
- Flask Framework

Data Processing

- PDF to Text Extraction
- JSON Structured Output
- ATS Score Engine

Frontend

- HTML
- CSS
- JavaScript



Google Technologies Used



Google Cloud Vision AI

- Used for Optical Character Recognition (OCR)
- Extracts text from PDF and scanned resumes
- Supports multi-format document processing
- Ensures high accuracy and reliability

Google Vertex AI

- Used for intelligent skill understanding
- Employs text embeddings for contextual skill detection
- Handles similar skill terms & synonyms
- Improves ATS scoring accuracy

Google Cloud Platform Readiness

- Compatible with Google Cloud Run
- Scalable and secure architecture
- Ready for cloud deployment

System Architecture

Flow of Our Solution

- Resume Upload (PDF / Scanned)
- Google Cloud Vision AI → OCR text extraction
- NLP Layer → Cleans & structures text
- Google Vertex AI → Skill understanding & intelligence
- ATS Scoring Engine → Calculates compatibility score
- Output Layer → JSON + HR Dashboard

Outcome

- Fully automated resume processing pipeline



Demo Highlights

- Resume successfully uploaded
- Text extracted using Google Cloud Vision
- Skills detected using Vertex AI
- ATS score generated dynamically
- Candidate details structured & displayed
- HR-friendly clean UI dashboard

The screenshot displays the 'Resume Parser' application interface, which includes the following sections:

- ATS-style resume parsing for recruiters**: A file input field labeled "Choose File" with the path "mohamed-javids-single-page-resume.pdf" and a "Parse Resume" button.
- ATS Score**: A large red "40%" score, with the text "Based on completeness and skills" below it.
- Parsed Resume Output**: A dark box containing a JSON object representing the parsed resume data:

```
{
  "basic_info": {
    "email": "smj.javid@hotmail.com",
    "github": null,
    "linkedin": null,
    "name": "smjjavid",
    "phone": "9787815969"
  },
  "skills": [
    "c",
    "python"
  ]
}
```
- Candidate Overview (HR View)**: A table with columns: NAME, EMAIL, PHONE, SKILLS, and ATS SCORE. It lists two candidates:

NAME	EMAIL	PHONE	SKILLS	ATS SCORE
rujhanarora	rujhanarora.96@gmail.com	8571086069	android, c, html, ios, java, javascript, machine learning, mysql, node, python	90%
smjjavid	smj.javid@hotmail.com	9787815969	c, python	40%

Future Enhancements

- Bulk multiple resume parsing
- Job Description → Resume Match %
- Candidate ranking & recommendations
- Resume improvement suggestions
- ATS score explanation engine
- Data analytics dashboard
- Deployment on Google Cloud Run / Firebase

Vision

- Building a complete AI hiring assistant

