



Milestone 2



SkillSense: Smart Job Fit Analyser

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Team C | Batch 4 & 5

The Job Seeker's Dilemma

Palash

Judging Resume Fit

Job seekers often find it challenging to accurately gauge how well their resume aligns with a specific job description, leading to missed opportunities.

Identifying Skill Gaps

Many are unaware of the specific skills they lack for a desired role, making it difficult to target their development efforts effectively.

Manual Tailoring Effort

Manually customising resumes for each application is an incredibly time-consuming and often error-prone process.

Project Overview

What SkillSense Does ?

- SkillSense is an AI-powered **resume** intelligence system designed to help **job seekers** understand how well their **resume** matches a **job description** and what skills they need to improve.
- It's a personal career assistant, providing actionable insights to land the dream job.

High Level Workflow with Tech Stack

Palash



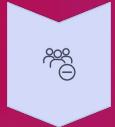
1. Upload Resume

User uploads a resume (PDF/Docx) with automatic text extraction.



2. Extract Skills & Experience

System extracts skills and experience using NLP pipelines (spaCy + rule-based patterns).



3. Process Job Description

Skills, keywords, and context are meticulously extracted from the job description.



4. Semantic Matching

Resume versus JD embeddings are compared using sentence-transformers.



5. Generate Match Score

A similarity score is generated, indicating the overall job fit.



6. Recommend Missing Skills

System identifies and recommends skills present in the JD but missing from the resume.



Frontend



Backend



Database



NLP



Hugging Face

ML

- *User uploads their resume*
- *System extracts and cleans the text*
- *Key skills are detected automatically*
- *Resume and job description are compared using embeddings*
- *A match score (by cosine similarity) and skill gap summary are generated*

Resume Matcher

Technical Workflow

Resume Matcher (Core Engine of SkillSense)

- **Text Pre-processing:** Cleans and breaks down resume text for easy analysis.
- **NER (Entity Detection):** Finds important details like skills, experience, education, and job roles.
- **Semantic Analysis:** Understands the meaning and context behind the extracted information.
- **Similarity Scoring:** Matches resume details with job requirements to check how well they fit.

Outcome:

Provides a clear and accurate understanding of a candidate's profile — not just keyword matching, but real qualification assessment.



- **Growing Skill Gap in Industry**
- **Recruiters Prefer Skill-Aligned Candidates**
- **Self-Awareness Problem**
- **Overwhelming Learning Landscape**

SKILL RECOMMENDER

Why it's Needed & Core Idea

CORE IDEA OF SKILL RECOMMENDER

Omkar



Input



Job Description Analysis



Skill Gap Detection



Personalised
Recommendations



Ranking Among Resumes



Output

SKILL RECOMMENDER

Technical Overflow+Recommendation Algorithms:

SKILL RECOMMENDER:

Technical Workflow:

- Extract skills from candidate resumes using NLP.
- Convert extracted skills into embeddings (vector representations).
- Compare candidate skills with job skill database.
- Rank missing or recommended skills based on similarity.

Recommendation algorithm:

- Rule-Based: Directly suggest skills required for a job role.
- Content-Based: Suggest skills similar to candidate's existing skills using embedding similarity.
- Optional: Hybrid approach combines both for optimal recommendations.

TECHNICAL OVERFLOW:

Manikanta
Rashik

Skill Recommender – Technical Workflow

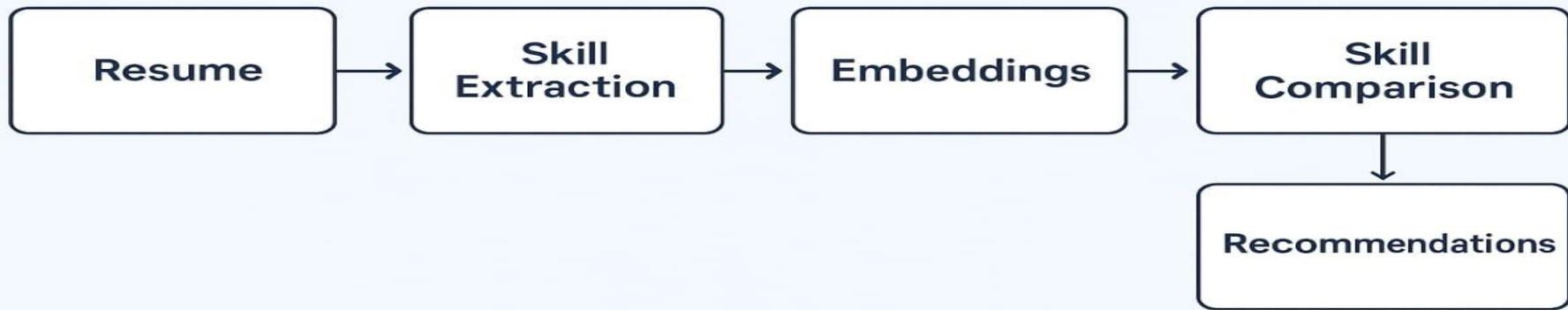
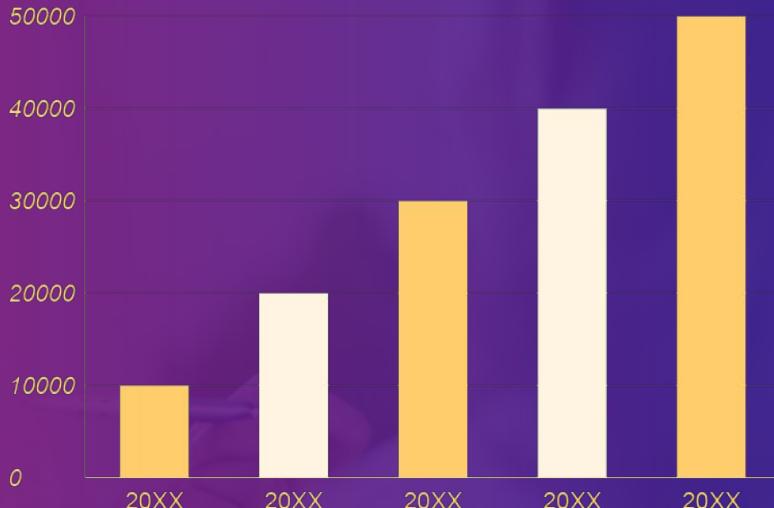


CHART SLIDE

AI-Enhanced Resume Performance

Skill Sense leverages NLP, machine learning, and intelligent resume parsing to significantly improve how user skills and experiences are analyzed. By integrating technologies such as spaCy, Django REST, and Sentence-Transformers, the system delivers more accurate skill detection, faster processing times, and higher job-role relevance. These improvements help users generate clearer, ATS-friendly resumes that stand out in competitive hiring pipelines.

Overflow



OVERVIEW SLIDE

2025



Skill Extraction

Automatically identifies relevant skills using NLP pipelines built with spaCy and NLTK.



ATS Formatting

Creates clean and standardized resume formats designed to meet ATS parsing requirements.



Resume Parsing

Processes pdf and docx files using pdfminer.six and text tract to generate structured text.



User Interface

Streamlit provides a simple, responsive interface for uploading resumes and viewing extracted insights.



Job Matching

Leverages Sentence-Transformers for semantic similarity scoring between resumes and job descriptions.



Backend Architecture

Django REST Framework and Docker deployment ensure robustness, modularity, and production readiness..

SKILL RECOMMENDER

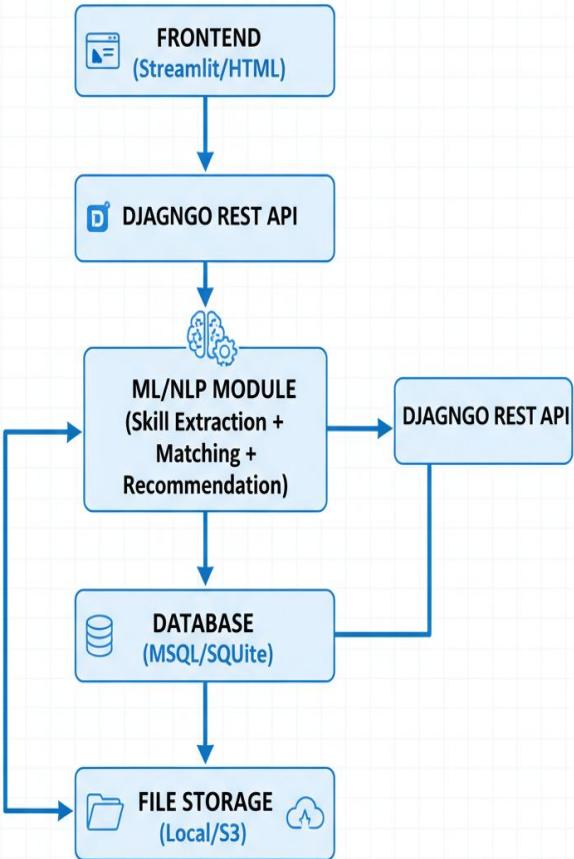
System Architecture & Tech Stack

Om

System Architecture & Tech Stack

- Django → robust backend
- Streamlit → faster prototype
- MySQL → scalable database
- NLP models → accurate skill extraction
- Docker
- Nginx
- Cloud (AWS/Heroku)

SYSTEM ARCHITECTURE DIAGRAM



Om

UI Enhanced

Layout: Components reorganized into a clean, responsive grid for better clarity and quick navigation.

Visual Polish: Improved spacing, typography, and alignment to deliver a modern, user-friendly interface

The screenshot shows the ResumeFit AI-powered resume analysis tool. At the top left is the logo and navigation bar with links to Home, Upload Resume, Job Match, Insights, and Settings. A sidebar on the left contains a 'Pro Tip' about uploading multiple resumes. The main header reads 'Match Your Resume to Any Job Description'. Below it is a sub-header: 'Get instant AI-driven insights on how well your resume aligns with job requirements. Identify skill gaps, highlight strengths, and optimize your application.' A large blue 'Get Started →' button is centered. To the right are three performance metrics: '95% Accuracy Rate', '<5s Analysis Time', and '10K+ Users Helped'. The central section is titled 'Analysis Results' with a sub-header: 'Here's how your resume matches the job description'. It features a large yellow box with a '78%' skill match score, described as 'Good match with room for improvement'. Below this are two columns: 'Matched Skills' (JavaScript/TypeScript, React.js, Node.js, RESTful APIs, Git & Version Control, Agile Development, Problem Solving) and 'Missing Skills' (Docker & Kubernetes, AWS Cloud Services, GraphQL, CI/CD Pipelines, Test-Driven Development).

ResumeFit

Home

Upload Resume

Job Match

Insights

Settings

Pro Tip
Upload multiple resumes to compare results across positions.

Match Your Resume to Any Job Description

Get instant AI-driven insights on how well your resume aligns with job requirements. Identify skill gaps, highlight strengths, and optimize your application.

Get Started →

95%
Accuracy Rate

<5s
Analysis Time

10K+
Users Helped

Analysis Results

Here's how your resume matches the job description

78%
Skill Match Score

Good match with room for improvement

Matched Skills

- JavaScript/TypeScript
- React.js
- Node.js
- RESTful APIs
- Git & Version Control
- Agile Development
- Problem Solving

Missing Skills

- Docker & Kubernetes
- AWS Cloud Services
- GraphQL
- CI/CD Pipelines
- Test-Driven Development

- SkillSense helps users understand how job-ready they are
- Provides match scores and skill recommendations
- Useful for job seekers, career counselors, and placement cells



THANK YOU!

A woman with blonde hair tied back is smiling broadly, showing her teeth. She is holding a black smartphone up to her mouth, as if she is biting or chewing on it. Her eyes are closed in a joyful expression. The background is blurred, suggesting an indoor setting like a bar or restaurant.

Now, seeing the code....