

# Smart Resume Screener - ScreenWise

An AI-driven platform for intelligent resume analysis for HR professionals.

By : Dhruvi Rathod

# Introduction

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The Smart Resume Screener is a full-stack web application that leverages AI and NLP to automate and simplify this process. It allows HR teams to upload job descriptions and candidate resumes, and instantly receive:

- A match score between resume and JD
- Extracted skills, education, and experience
- A summary highlighting strengths and weaknesses

This tool reduces manual effort, ensures better candidate-job fit, and accelerates hiring decisions — making it an ideal solution for modern recruitment teams.



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# Project Overview

# Project Goal

The primary objective of this project is to automate resume screening using AI and deliver meaningful insights to HR users for efficient hiring decisions.

## Key Goals:

### 🔍 Automate Resume Matching:

Match candidate resumes to job descriptions using NLP and semantic similarity.

### 📊 Provide AI-Based Analysis:

Extract skills, education, experience, strengths, and weaknesses from resumes.

### ⚙️ Build Full-Stack Functionality:

Develop a seamless React frontend, Spring Boot backend, and Python-based AI model.

### ⌚ Accelerate Recruitment Workflow:

Minimize manual screening efforts, reduce turnaround time, and improve candidate-job fit.



# Project Outcomes

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1. Working Full-Stack Application

2. AI-Based Resume Evaluation

3. Secure Role Based Access

4. Cloud Deployment

5. User-Friendly Dashboard

# Tech Stack Overview

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Category	Technology	Purpose
Frontend	React.js (with TypeScript), Tailwind CSS	UI development and styling
Backend	Spring Boot (Java 17)	RESTful APIs, business logic
AI Model	FastAPI (Python), OpenAI API, fuzzywuzzy	Resume analysis, skill matching, summarization
Database	PostgreSQL	Store resumes, candidates, job descriptions
Authentication	JWT (JSON Web Token)	Secure login and route protection
Deployment	Vercel (Frontend), Railway (Backend + AI + DB)	Cloud hosting and continuous deployment

# Project URL And User Credentials

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URL : <https://smart-resume-screener.vercel.app/>

Email : [dhruvi@gmail.com](mailto:dhruvi@gmail.com)

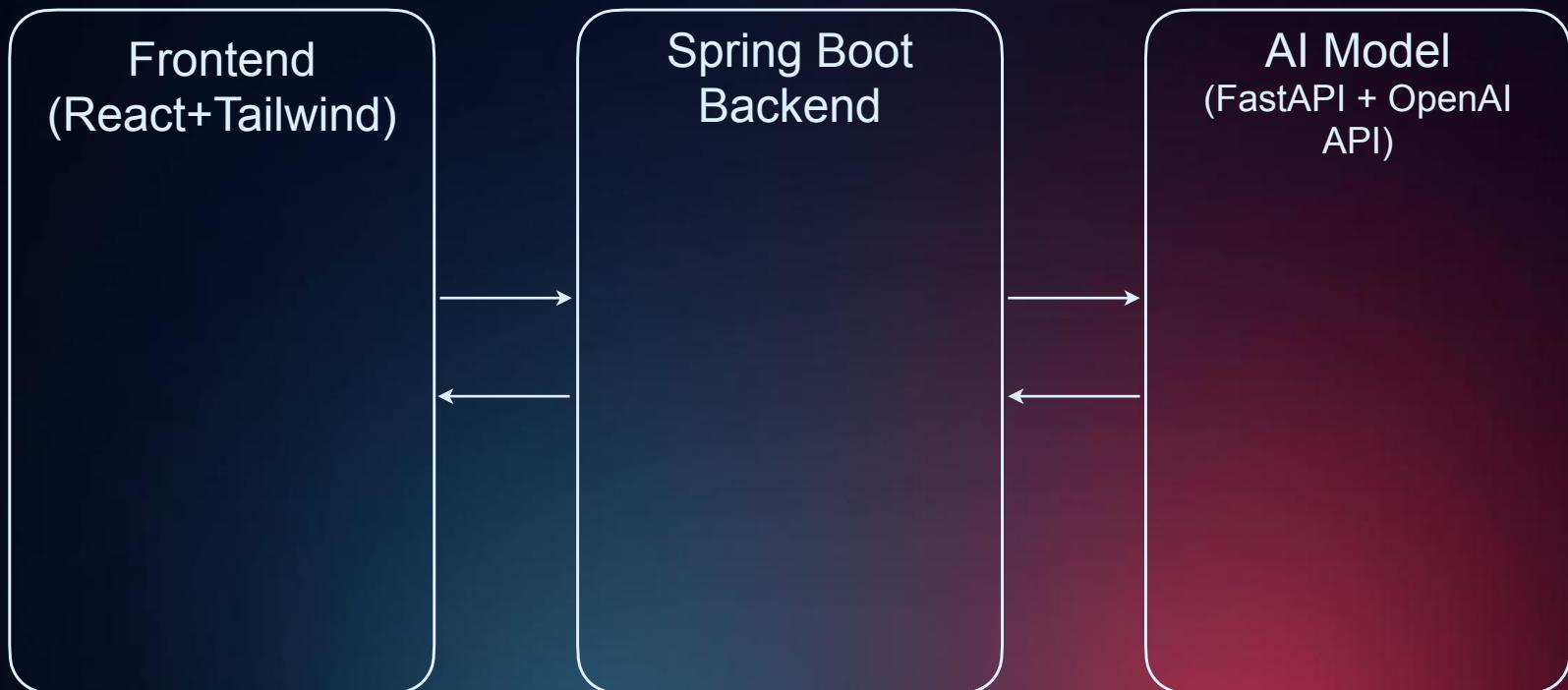
Password : 12345678

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# Key Features

# System Workflow Overview

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# User Authentication

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This application employs a secure authentication system using **JWT (JSON Web Token)** to ensure that only authorized users can access protected resources.

🔑 Key Highlights:

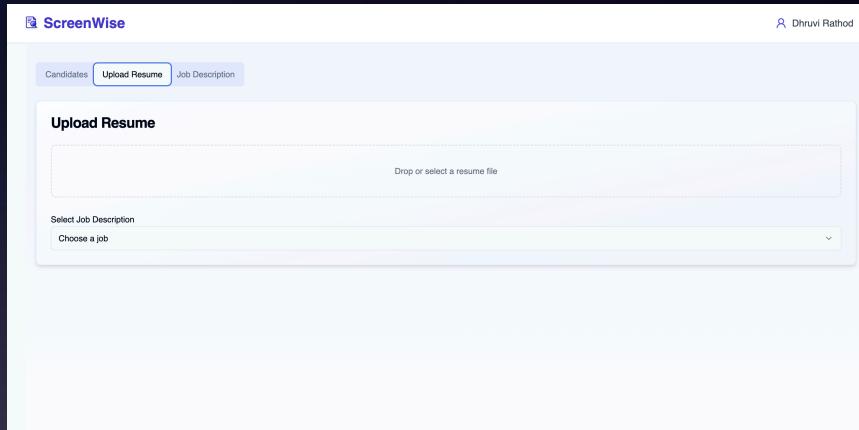


# Resume Upload Portal

The resume upload portal allows HR users to seamlessly upload candidate resumes in **PDF or DOCX** format. Upon upload, the system processes and analyzes the resume using the integrated AI model.

## Key Functionalities:

- Upload resumes with a simple drag-and-drop or file selection interface.
- Accepts .pdf and .docx formats.
- Links each resume to a selected job description.
- Automatically triggers backend analysis using FastAPI AI model.



# Job Description Form

The screenshot shows a web-based application for creating job descriptions. At the top, there's a navigation bar with links for 'Candidates', 'Upload Resume', and 'Job Description'. The current page is 'Job Description', indicated by a blue border around the tab. The main form area has several input fields:

- Job Title \***: A text input field containing "e.g. Senior Software Engineer".
- Department**: A text input field containing "e.g. Engineering".
- Location**: A text input field containing "e.g. Remote, New York, NY".
- Required Skills \***: A text input field containing "e.g. React, TypeScript, Node.js" with a note below it saying "Separate skills with commas".
- Job Description \***: A large text area with placeholder text "Enter the full job description here...".

At the bottom right of the form area is a blue button labeled "Save Job Description". Below the form, there's a footer with some small text and a "Logout" link.

The Job Description Form allows HR users to create and manage job listings. These job descriptions serve as the reference point against which candidate resumes are analyzed and scored.

## Key Features:

- Enter detailed job information including:
  - **Title**
  - **Department**
  - **Location**
  - **Required Skills** (entered as a list)
  - **Full Job Description**
- Stores job data in the PostgreSQL database via backend API
- Displays all job descriptions for easy selection during resume upload

# Candidate Dashboard

The Candidate Dashboard provides HR users with a centralized interface to view and evaluate all the uploaded and analyzed resumes. It displays AI-generated match scores, skill comparisons, and summary insights in a user-friendly layout.

## Key Features:

- Displays list of analyzed candidates in card/grid view
- Each card shows:
  - Candidate name
  - Matched Job Title
  - AI-generated Match Score (percentage)
  - Key skills and education
- Filter candidates by:
  - **Job Title**
  - **Match Score**
  - **Search by keyword**
- "View Details" opens a dedicated view with charts and full profile

The screenshot displays the ScreenWise Candidate Dashboard. At the top, there's a navigation bar with tabs for 'Candidates', 'Upload Resume', and 'Job Description'. On the right, there are search and filter options. Below the header, two candidate profiles are shown in cards:

- Dhrushi Rathod.pdf** (Match Score: 80%)
  - Education: Bachelor of Technology
  - Key Skills: WebDriverIO, Selenium, TypeScript, JavaScript (TestNG +3)
  - Job Title: QA Automation Engineer
- NamitaChouguleResumeLatest.pdf** (Match Score: 45%)
  - Education: Bachelor of Engineering in Computer Science
  - Key Skills: WebDriverIO, Selenium, TypeScript, JavaScript (TestNG +3)
  - Job Title: QA Automation Engineer

At the bottom of the dashboard, there are navigation buttons for 'Previous' and 'Next', and a page indicator showing 'Page 1 of 1'. There are also links for 'View Details' and 'Download' for each candidate profile.

# AI Resume Matching

The AI Resume Matching module is the core intelligence engine of the platform. It compares uploaded resumes with job descriptions to generate detailed insights and compatibility scores, enabling HR teams to shortlist the most relevant candidates faster.

## How It Works:

1. **Resume Parsing:** Extracts raw text from uploaded resume files (PDF/DOCX).
2. **Semantic Matching:**
  - Uses **fuzzywuzzy** for skill relevance scoring.
  - Conceptually aligned with **BERT-based models** to understand meaning and context between resume content and job descriptions.
3. **Insights Generation:**
  - **Match Score**
  - **Extracted Skills, Education, and Experience**
  - **Strengths & Weaknesses Summary** via OpenAI API
4. **Response to Backend:** The full AI analysis is returned to the backend for frontend rendering.

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## Dhruvi Rathod.pdf's Details

### Match Score



■ Match Score ■ Gap

Strong Match

### Skills Assessment



### AI Summary

The candidate, Dhruvi Rathod, holds a Master's in Computer Science Engineering and has experience as a Graduate Trainee at Paul Mason Consulting, where she designed and executed comprehensive test cases, streamlined testing processes, and collaborated with development teams. Her technical skills include JavaScript, TypeScript, Selenium, WebdriverIO, and CI/CD pipeline implementation. She has also worked on projects involving containerization, e-commerce platforms, and AI-powered chatbots. While she meets many requirements of the QA Automation Engineer position, such as experience with

# Conclusions

The Smart Resume platform represents a significant advancement in the recruitment process, combining robust technology with intelligent analysis to optimize candidate selection. By leveraging AI, it aims to improve efficiency and effectiveness in hiring, making it an invaluable tool for HR professionals.

# Thank you!

**Do you have any questions?**