

AI-Powered Recruitment Platform

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Overview

What is the AI-Powered Recruitment Platform?

An intelligent recruitment platform that helps recruiters efficiently shortlist candidates by matching uploaded resumes against a database of job descriptions using Retrieval-Augmented Generation (RAG). The system utilizes semantic search with Qdrant and LLMs (via Groq/Llama) to extract and analyze key resume details, enabling accurate, fast, and scalable candidate-job matching.

Key Features

-  **Smart Matching:** AI-powered job recommendations based on resume analysis
-  **Resume Analysis:** Automated extraction of skills, experience, and candidate details
-  **Job Generation:** Create realistic job descriptions across multiple domains
-  **Analytics Dashboard:** Comprehensive insights into job data and trends
-  **Semantic Search:** Advanced search capabilities for job matching

Technology Stack

- **Frontend:** Streamlit Cloud
 - **Vector Database:** Qdrant
 - **Database:** MongoDB
 - **AI/ML:** Groq, Hugging Face, LLMs (Llama)
 - **File Processing:** PDF, DOCX, TXT support
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Getting Started

System Requirements

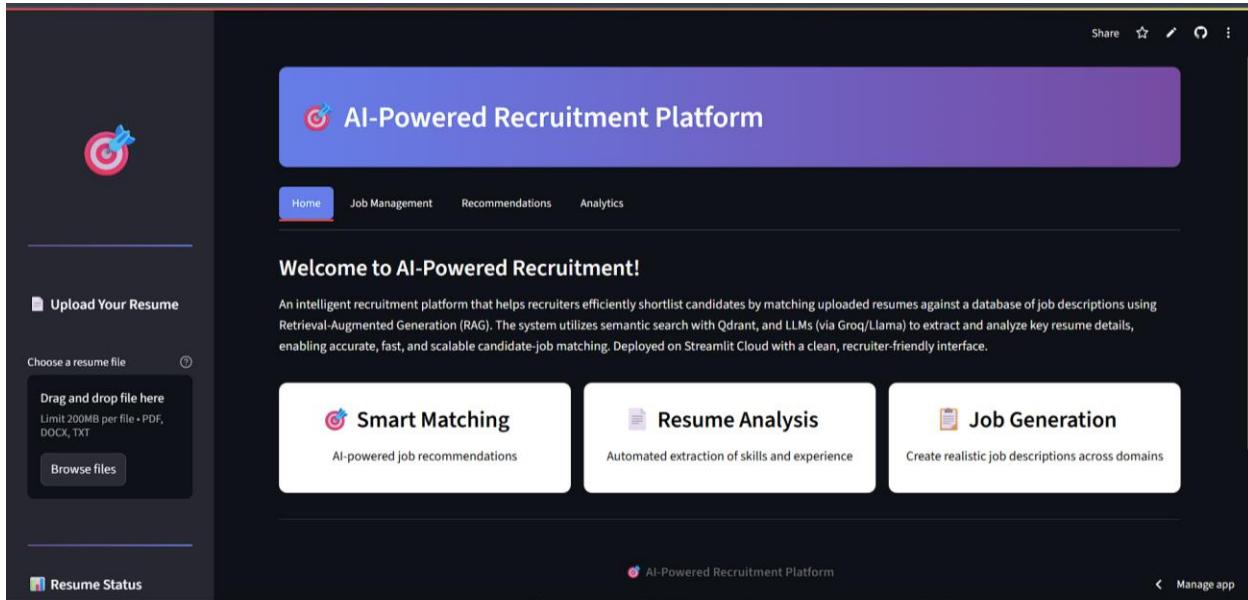
- Modern web browser (Chrome, Firefox, Safari, Edge)
- Internet connection
- Supported file formats: PDF, DOCX, TXT

First Time Setup

1. Access the platform through your web browser
 2. The application will load with a clean, recruiter-friendly interface
 3. No registration or login required - start using immediately
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Navigation Guide

Main Interface Layout



Header Section

- **Title:** AI-Powered Recruitment Platform with gradient design
- **Navigation Tabs:** Home | Job Management | Recommendations | Analytics

Sidebar (Left Panel)

- **Animated Target Icon:** Visual branding element
- **Resume Upload Section:** File upload functionality
- **Resume Status:** Current resume information display
- **Quick Stats:** Key metrics and counts

Main Content Area

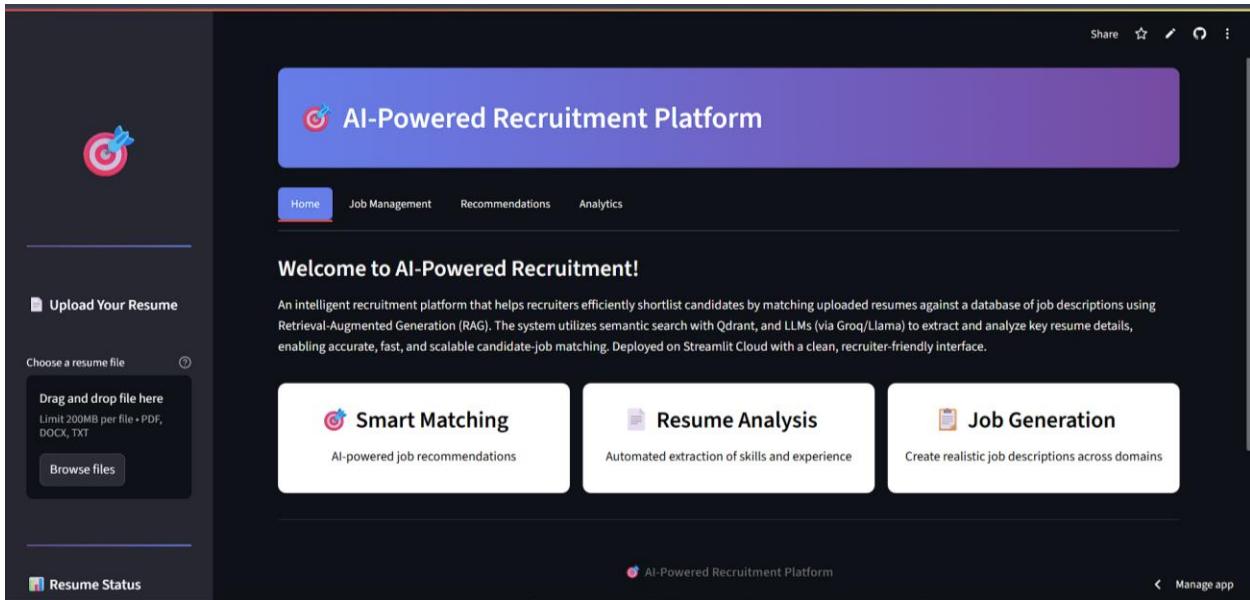
- **Tabbed Interface:** Four main functional areas
- **Responsive Design:** Adapts to different screen sizes

Footer

- **Platform Information:** Built with Streamlit
- **Technology Credits:** Powered by Groq, Huggingface, Qdrant, MongoDB & RAG
- **Copyright:** © 2025 - Valenteno Lenora

Feature Documentation

1. Home Page

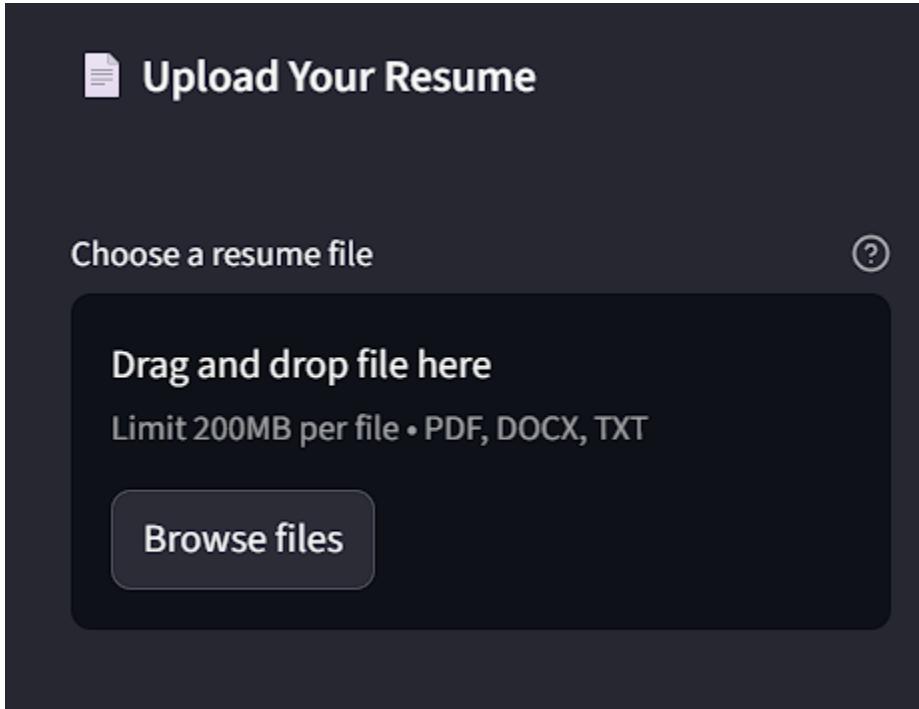


Purpose: Welcome screen and platform overview

Features:

- Platform introduction and description
- Feature highlights in card format:
 - Smart Matching capabilities
 - Resume Analysis automation
 - Job Generation tools

2. Resume Upload (Sidebar)



Upload Process

- File Selection:** Click "Choose a resume file"
- Supported Formats:** PDF, DOCX, TXT
- Processing:** Automatic text extraction and AI analysis
- Status Updates:** Real-time processing feedback

Resume Status Display

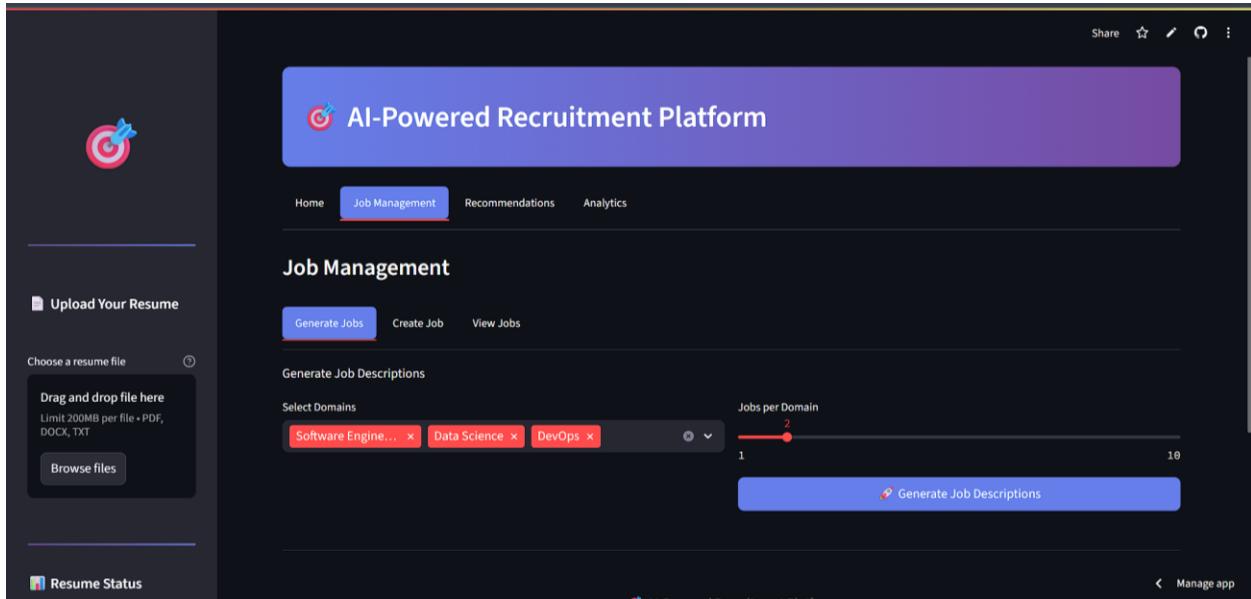
- Candidate Name:** Extracted from resume
- Top Skills Preview:** First 4 skills with "+X more" indicator
- Processing Confirmation:** Success/error messages

Management Options

- Clear Resume:** Remove current resume and reset system
- Re-upload:** Replace existing resume with new file

3. Job Management

Tab 1: Generate Jobs



Purpose: Create multiple job descriptions automatically

Process:

1. **Domain Selection:** Choose from predefined domains:

- Software Engineering
- Data Science
- DevOps
- Machine Learning
- Quality Assurance
- Project Management
- Business Analytics

2. **Quantity Setting:** Use slider to set jobs per domain (1-10)

3. **Generation Process:**

- Click " Generate Job Descriptions"
- Progress bar shows generation status

- Batch processing (max 3 jobs per batch)
- Success/failure notifications

Tab 2: Create Job

The screenshot shows the 'Job Management' section of the AI-Powered Recruitment Platform. On the left, there's a sidebar with a target icon, a 'Upload Your Resume' button, and a 'Resume Status' section. The main area has tabs for 'Home', 'Job Management' (which is active), 'Recommendations', and 'Analytics'. Under 'Job Management', there are buttons for 'Generate Jobs', 'Create Job' (which is highlighted in blue), and 'View Jobs'. Below these are fields for 'Enter a Job Description' and 'Paste job description here'. At the bottom is a large blue button labeled 'Process Job Description' with a gear icon. The top right corner of the page has sharing options.

Purpose: Manually input and process job descriptions

Process:

1. **Text Input:** Paste job description in text area
2. **Processing:** Click " Process Job Description"
3. **AI Analysis:** Automatic structuring and field extraction
4. **Database Storage:** Processed job saved to system

Tab 3: View Jobs

The screenshot shows the 'Job Management' section of the AI-Powered Recruitment Platform. At the top, there's a purple header bar with the platform's logo and name. Below it, a navigation bar includes 'Home', 'Job Management' (which is highlighted in blue), 'Recommendations', and 'Analytics'. The main content area is titled 'Job Management' and contains three buttons: 'Generate Jobs', 'Create Job', and 'View Jobs' (which is also highlighted in blue). Below these buttons, there are sections for 'View all Jobs' and 'Search jobs...'. A search bar allows users to enter job titles, company names, or skills. The results section shows 'Showing 212 of 212 jobs' with two examples: 'DevOps Engineer - 45 min ago' and 'DevOps Consultant - 45 min ago'. On the left side of the interface, there's a sidebar with a target icon, a resume upload section ('Upload Your Resume'), and a 'Resume Status' section.

Purpose: Browse and search existing job database

Features:

- **Search Functionality:** Search by title, company, or skills
- **Job Cards:** Expandable job details with:
 - Job title and creation timestamp
 - Company and location information
 - Experience level and employment type
 - Salary range (if available)
 - Required skills with styled tags
 - Full job description

4. Recommendations

The screenshot shows a user interface for generating job recommendations. On the left, there's a sidebar with a target icon and a 'Upload Your Resume' section where a file named 'CV_Valentin...' (508.3KB) has been uploaded and is being processed. The main area is titled 'Job Recommendations' and features a slider for setting the number of recommendations from 1 to 20, with 5 selected. A blue button labeled 'Get Job Recommendations' is visible. Below the slider, a section titled 'Recommended Jobs (5)' lists two job positions: '1. Machine Learning Engineer at XYZ Inc.' with a match score of 57.61% and '2. Data Scientist at ABC Corporation'. Each job entry includes a 'View Details' link and a dropdown menu. The top right of the screen has sharing and management options.

Prerequisites

- Resume must be uploaded and processed
- Job database must contain relevant positions

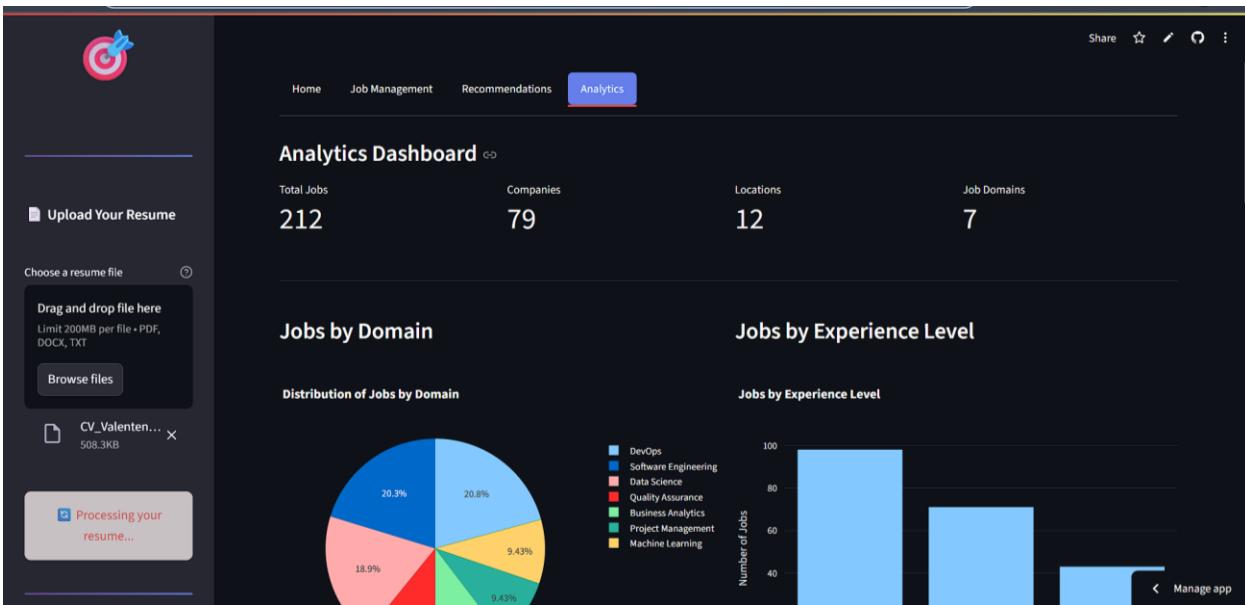
Recommendation Process

1. **Parameter Setting:** Use slider to set number of recommendations (1-20)
2. **Generate Recommendations:** Click " Get Job Recommendations"
3. **AI Processing:** System performs semantic search and matching
4. **Results Display:** Ranked job matches with similarity scores

Results Format

- **Match Scores:** Percentage-based similarity scores
- **Detailed Cards:** Expandable job information
- **Download Option:** Export recommendations as PDF

5. Analytics Dashboard



Key Metrics (Top Row)

- **Total Jobs:** Count of all jobs in database
- **Companies:** Number of unique companies
- **Locations:** Number of unique locations
- **Job Domains:** Number of different job domains

Visualization Charts

Domain Distribution (Pie Chart)

- Shows percentage breakdown of jobs by domain
- Interactive hover information
- Color-coded segments

Experience Level Analysis (Bar Chart)

- Horizontal bars showing job counts by experience level
- Categories: Entry, Mid, Senior, etc.

Location Insights (Horizontal Bar Chart)

- Top 10 job locations by frequency
- Geographic distribution analysis

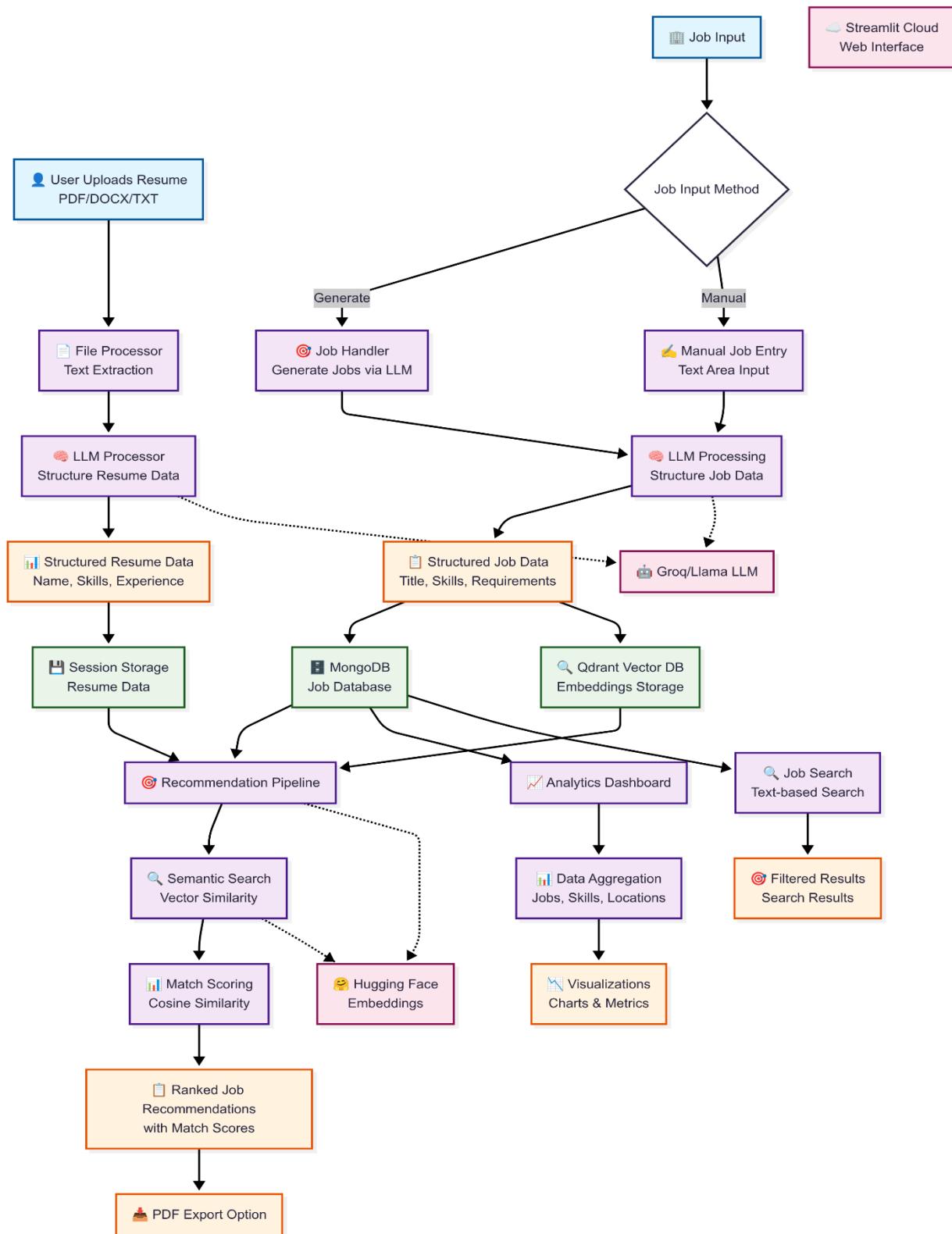
Skills Demand (Horizontal Bar Chart)

- Top 10 most frequently required skills
- Helps identify market trends

Recent Jobs Table

- **Last 5 Jobs:** Most recently added positions
- **Formatted Display:** Clean table with key information
- **Sortable Columns:** Organized by creation date

System workflow



How-To Guides

How to Get Job Recommendations

1. Upload Resume:

- Go to sidebar "📄 Upload Your Resume"
- Select PDF, DOCX, or TXT file
- Wait for processing completion (✅ success message)

2. Navigate to Recommendations:

- Click "Recommendations" tab
- Verify resume data is displayed

3. Set Parameters:

- Use slider to select number of recommendations (1-20)
- Default is 5 recommendations

4. Generate Recommendations:

- Click "🚀 Get Job Recommendations"
- Wait for AI processing (progress bar)
- Review results with match scores

5. Export Results (Optional):

- Click "🖨️ Download PDF"
- Save recommendations for offline review

How to Build Job Database

Method 1: Auto-Generate Jobs

1. Go to "Job Management" → "Generate Jobs" tab
2. Select desired domains (multi-select)
3. Set jobs per domain (1-10)
4. Click "🚀 Generate Job Descriptions"

5. Monitor progress bar
6. Verify success notifications

Method 2: Manual Job Entry

1. Go to "Job Management" → "Create Job" tab
2. Paste job description in text area
3. Click " Process Job Description"
4. Wait for AI processing
5. Check success confirmation

How to Search and Filter Jobs

- 1. Access Job Database:**
 - Go to "Job Management" → "View Jobs" tab
- 2. Use Search Function:**
 - Enter keywords in " Search jobs..." field
 - Search works for: job titles, companies, skills
 - Results filter automatically
- 3. Browse Results:**
 - View job count summary
 - Expand job cards for full details
 - Review skills, requirements, and descriptions

How to Analyze Job Market Data

- 1. Access Analytics:**
 - Click "Analytics" tab
- 2. Review Key Metrics:**
 - Check total jobs, companies, locations, domains
 - Compare metrics over time

3. Interpret Visualizations:

- **Domain Chart:** Understand job distribution
- **Experience Chart:** See demand by level
- **Location Chart:** Identify geographic hotspots
- **Skills Chart:** Track in-demand skills

4. Use Insights:

- Plan recruitment strategies
 - Identify skill gaps
 - Target specific markets
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Troubleshooting

Common Issues and Solutions

Resume Upload Problems

Issue: "Failed to extract text from file"

- **Cause:** Corrupted or unsupported file format
- **Solution:**
 - Ensure file is PDF, DOCX, or TXT
 - Try a different file
 - Check file isn't password-protected

Issue: "Failed to process resume"

- **Cause:** AI processing error or malformed resume content
- **Solution:**
 - Try uploading a different resume
 - Ensure resume has clear text (not image-based)
 - Check internet connection

Job Generation Issues

Issue: "Failed to generate X jobs"

- **Cause:** API rate limits or connectivity issues
- **Solution:**
 - Wait a moment and try again
 - Reduce jobs per domain
 - Check internet connection

Issue: "No jobs generated"

- **Cause:** Complete generation failure
- **Solution:**
 - Verify domain selection
 - Try generating fewer jobs
 - Refresh the page and retry

Recommendation Problems

Issue: "Please upload a resume first"

- **Cause:** No resume data in session
- **Solution:**
 - Upload and process a resume
 - Verify resume processing completed successfully

Issue: "No job recommendations found"

- **Cause:** Empty job database or no matches
- **Solution:**
 - Generate or create jobs first
 - Try with a different resume
 - Check if job database has relevant positions

Analytics Display Issues

Issue: "No job data available for analytics"

- **Cause:** Empty job database
- **Solution:**
 - Generate job descriptions first
 - Create manual job entries
 - Verify job database has content

Performance Tips

1. **File Sizes:** Use reasonably sized resume files (under 5MB)
 2. **Batch Generation:** Generate jobs in smaller batches for better reliability
 3. **Browser Performance:** Refresh page if interface becomes slow
 4. **Network:** Ensure stable internet connection for AI processing
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Technical Specifications

Supported File Formats

- **PDF:** Adobe Portable Document Format
- **DOCX:** Microsoft Word Document
- **TXT:** Plain text files

File Size Limits

- **Maximum:** 10MB per file (recommended: under 5MB)
- **Processing Time:** Varies by file size and complexity

Data Storage

- **Jobs:** Stored in MongoDB database
- **Vectors:** Qdrant vector database for semantic search

- **Session:** Resume data stored in browser session

AI/ML Models

- **Text Extraction:** Automated parsing algorithms
- **Resume Analysis:** LLM-based structured data extraction
- **Job Matching:** Semantic similarity using embeddings
- **Generation:** Large Language Models via Groq API

Browser Compatibility

- **Chrome:** Version 90+
- **Firefox:** Version 88+
- **Safari:** Version 14+
- **Edge:** Version 90+

Internet Requirements

- **Connection:** Stable broadband recommended
 - **Bandwidth:** Minimum 1 Mbps for optimal performance
 - **Latency:** AI processing requires good connectivity
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Support and Contact

Getting Help

- **Platform Issues:** Check troubleshooting section first
- **Feature Requests:** Contact development team
- **Technical Problems:** Verify browser compatibility and internet connection

Platform Information

- **Version:** Current deployment on Streamlit Cloud
- **Updates:** Automatic through cloud deployment
- **Maintenance:** Minimal downtime during updates

This manual covers the core functionality of the AI-Powered Recruitment Platform.