

Resume Analyzer Web Application - Detailed Project Overview

1. Project Summary

The Resume Analyzer is a web-based application developed using Flask. It enables users to upload their resumes in PDF format, parse the content, and receive job recommendations based on the extracted text. The system also includes a chatbot assistant, admin/user login system, animated UI, and file handling capabilities.

2. Core Features

- Resume upload and parsing (PDF to text)
- Job recommendation system
- User and admin authentication
- Profile picture and session support
- Chatbot for queries
- Frontend animations and professional UI
- PDF and presentation export (About page)

3. Backend Technologies

- Flask (Python Web Framework)
- PDFMiner or PyMuPDF for resume parsing
- SQLite or JSON for user data
- Sessions for managing login states
- Jinja2 templating for rendering HTML

4. Frontend Technologies

- HTML, CSS, JavaScript
- Bootstrap (optional for responsive design)
- Animations via CSS keyframes
- Interactive UI components (Navbar, Forms)

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5. Security Features

- Password hashing for storage (bcrypt or werkzeug.security)
- Session management for authenticated users
- Admin login with default and custom credentials
- Input validation and file type checks on upload

6. Application Workflow

1. User visits login page.
2. Authenticates using username/password.
3. Upon successful login, redirected to upload page.
4. User uploads resume PDF.
5. Server extracts and analyzes resume content.
6. Suggested jobs are displayed based on skills/keywords.
7. User can log out securely.
8. Admin can view extended data/stats.

7. Future Enhancements

- Machine learning model for better job matching
- Graphs and charts for skill analytics
- Multi-user database integration (PostgreSQL)
- Email verification and password recovery
- Real-time chatbot improvements with NLP

8. Conclusion

This project demonstrates the use of full-stack development, resume parsing, and user interaction in a professional and secure manner. It is ideal for students, HR tools, or training centers for quick resume analysis.