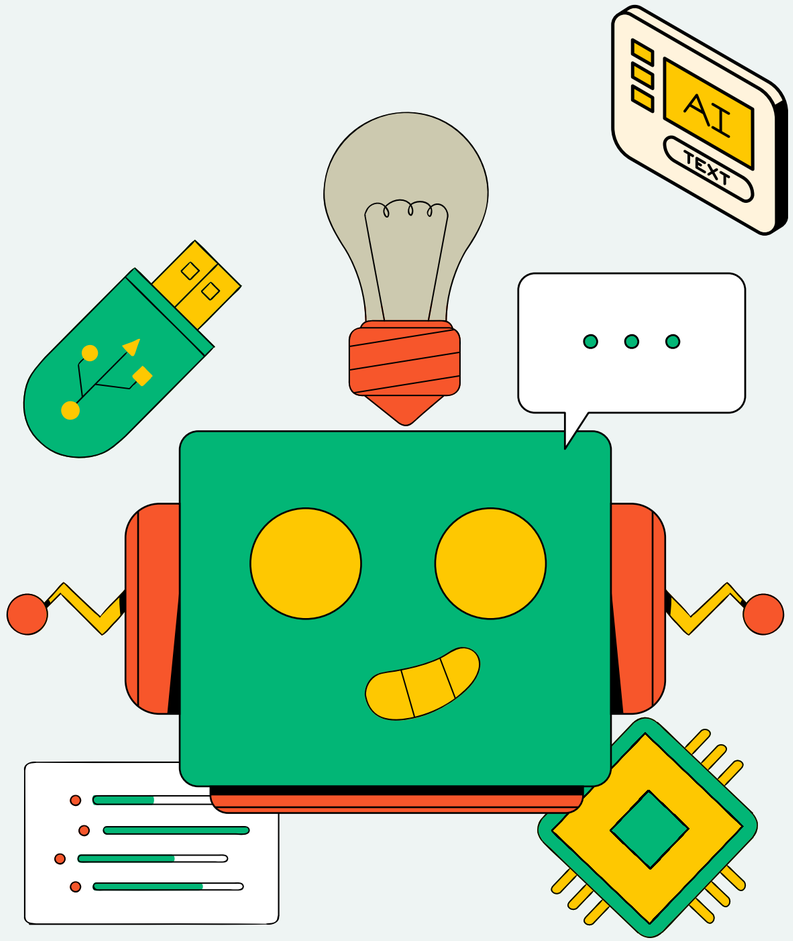
PROJECT 4

ONE PLATFORM FOR ALL RESUME RELATED QUERIES



RESUME SCREENING TOOL

PRESENTED BY:

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PRESENTATION OUTLINE

- Introduction
- Problem Statement
- Literature Review
- Proposed Solution
- Methodology
- Results
- Demo
- Conclusion and Future Scope

INTRODUCTION

In today's rapidly evolving job market, students and employers struggle to effectively match talent with opportunities, hindered by traditional recruitment processes that are time-consuming and subjective. So its imperative to address these challenges by leveraging cutting-edge AI and tools to create a comprehensive platform.

PROBLEM STATEMENT

Catering to the needs of both the students and recruiter is crucial so by offering personalized resume analysis, advanced semantic matching algorithms, interactive AI-powered career guidance, and streamlined recruitment workflows, we present a tool that bridges the critical gap between academic institutions and industry.

It empowers students to enhance their employability through actionable insights while providing recruiters with sophisticated tools to identify and evaluate top talent more efficiently.

LITERATURE REVIEW

Author	Title	Methodology	Result
T. M. Harsha, G. S. Moukthika	Automated Resume Screener using Natural Language Processing(NLP)	NLP Techniques: TF-IDF for feature extraction, N-grams for phrase matching. Classification Models: Naive Bayes, SVM.	Improved accuracy of initial screening. Reduced manual effort in candidate shortlisting.
A. Mohamed, W. Bagawathinathan, U. Iqbal	Smart Talents Recruiter – Resume Ranking and Recommendation System	Ranking Algorithms: Cosine Similarity for resume-job description matching.	Enhanced efficiency candidate recommendation. Effective ranking of resumes. Accuracy-85%
Pradeep Kumar Roya, Sarabjeet Singh Chowdhary Rocky Bhatia	A Machine Learning approach for automation of Resume Recommendation system	TF-IDF is used for feature extraction, converting text into numerical vectors. Classification models employed include Random Forest, Multinomial Naive Bayes, Logistic Regression, and Linear Support Vector Machine (SVM).	Linear Support Vector Machine (SVM) with an accuracy of 78.53%.

Author	Title	Methodology	Result
A. Zaroor, M. Maree and M. Sabha	JRC: A Job Post and Resume Classification System for Online Recruitment	Text Classification Models: Decision Trees, Random Forest. Feature Selection: Information Gain, Chi-Square.	Accurate classification of resumes. Effective matching of job descriptions with resumes. Accuracy – 88%
Alghamlas, M. & Alabduljabbar, R.	Predicting the Suitability of IT Students' Skills for Recruitment	Predictive Modeling: Decision Trees, Random Forest. Feature Extraction: Keyword Matching, TF-IDF.	Accurate prediction of student suitability. Useful for targeting students with specific skills. Accuracy – 82%
Tosin, M. et a	Intelligent Resume Parser Using NLP and Machine Learning	The system aims to enhance the efficiency of candidate recommendation and effectively rank resumes.	Random Forest Accuracy: 85%

Author	Title	Methodology	Result
Smith, Yand Brown, W	Automating the Recruitment Process: A Deep Learning Approach for Resume Screening	CNNs and LSTMs capture text features, and similarity scores are calculated using word embeddings and cosine similarity	Deep learning models outperform traditional methods in precision, recall, with 84% accuracy.
Chirag Daryani, Gurneet Singh Chhabra, Harsh Patel, Indrajeet Kaur Chhabra, Ruchi Patel	An Automated Resume Screening System Using Natural Language Processing And Similarity	1. Natural Language Processing (NLP) for information extraction 2.Tokenization, Stemming,POS Tagging 3.VectorSpaceModel 4.TF-IDF Vectorization 5. Cosine Similarity for ranking	Successfully created a system that: • Extracts key resume information • Summarizes resumes • Ranks candidates based on job description similarity

Author	Title	Methodology	Result
Bagarukayo, E. and Mwesigwa, E.	Automated Resume Parsing: A Natural Language Processing Approach	It employs techniques like TF-IDF and BERT for feature extraction and uses models like Logistic Regression and SVM for classification.	Accurate classification of resumes, effective job-resume matching. Accuracy: 88%
S. Verma, R. Khanna	Resume Shortlisting Using NLP	Techniques like N-grams and cosine similarity are used for phrase matching and similarity measurement	Highlights: Improved efficiency in the resume shortlisting process and effective candidate matching. Accuracy: 87%

EXISTING SYSTEMS

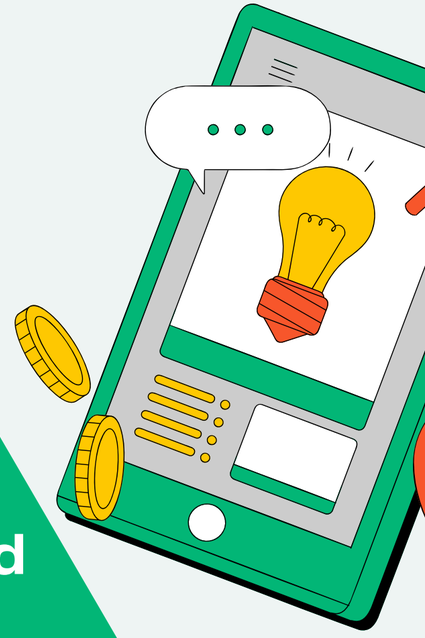
Application Tracking System (ATS)

Resume Analyzer (Resumeworded.com)

Pymetrics and HireVue

LinkedIn and Indeed

University and Educational Career Service



PROPOSED SOLUTION

LINKEDIN SCRAPPER

Suggests Job by Scrapping LinkedIn for you

JOB RECOMMENDER

Intensive Approach to suggest Jobs

RESUME RANKER

Personalized Resume Ranking System with Infographics

RESUME ANALYZER

Indepth and Holistic Review Feedback with custom Template

CHAT SUPPORT

Integrated within Resume Analyzer to Cater more personal Request

METHODOLOGY

DATA INPUT AND PROCESSING

- **Resume Upload and Parsing**: Users upload PDF resumes, and text extraction parses personal details, education, skills, and experience.
- **Job Description Input**: Recruiters upload standardized job descriptions for analysis.
- **Text Preparation**: Data is semantically embedded, chunked, and split for extraction.

EMBEDDING AND VECTOR STORAGE

- **Embedding Generation**: Hugging Face embeddings convert processed text into numerical representations with semantic meaning.
- **Vector Database**: Embeddings are stored in a vector database for efficient similarity searches and comparisons.

METHODOLOGY

REPORTS GENERATION AND SEMANTIC MATCHING

- **Gemini Model Integration**: Aligns and evaluates resume and job description embeddings for compatibility with offered jobs.
- **Report Generation**: Creates structured reports highlighting matches, gaps, and compatibility scores.
- **Chatbot Functionality**: Mixtral Groq-powered chatbot provides recommendations, job descriptions, and resume insights.

JOB RECOMMENDER SYSTEM

- **Recommendation Mechanism**: Analyzes resumes to predict suitable job roles based on qualifications, skills, and experience.
- **Visualization**: Displays results with visual aids like pie charts showing role suitability percentages.

METHODOLOGY

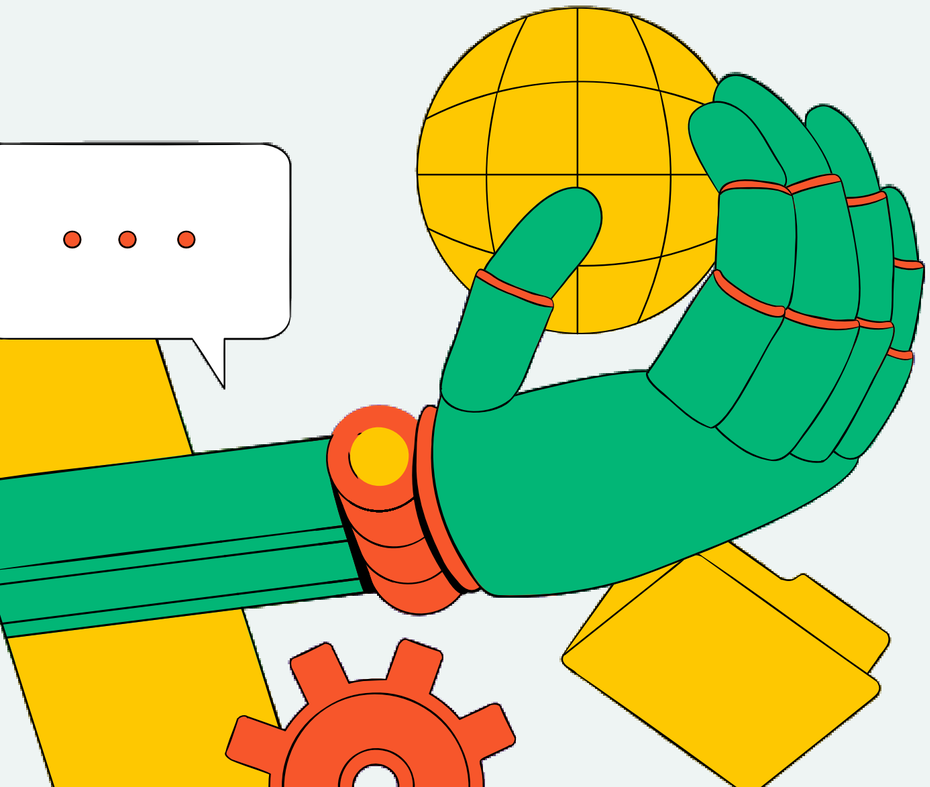
RECRUITER PANEL AND ADMIN PANEL

- **Job Posting and Resume Ranking**: Recruiters post job descriptions, and resumes are ranked based on semantic matching scores.
- **Analytics and Export Options**: Provides exportable reports and visual tools like histograms and tables for data analysis.

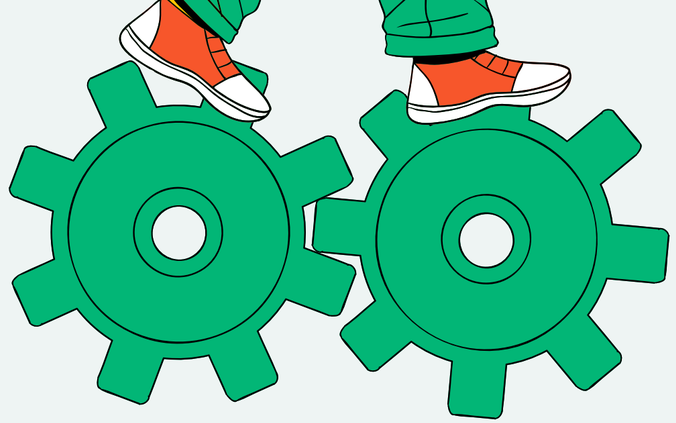
JOB SCRAPPER

Job Integration: Enables students and job seekers to access relevant LinkedIn jobs directly on their portal.

RESULTS AND DISCUSSION



REAL WORLD APPLICATIONS



STUDENTS

Reduces the time of resume submission and analysis.

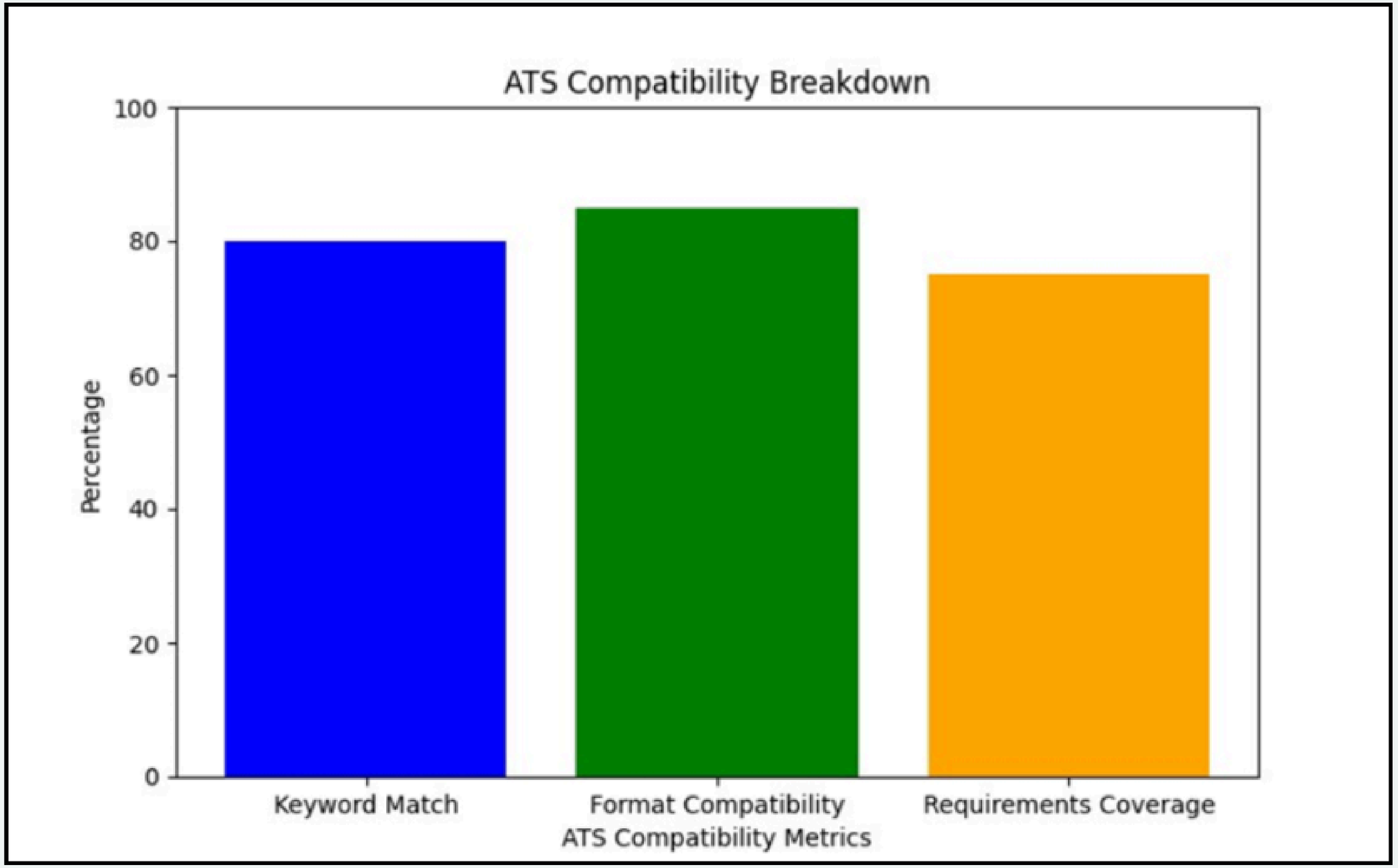
Tailors their job recommendations.

RECRUITER

It streamlines the candidate evaluation and ranking.

It offers semantic insights and analytic training for the better hiring decision.

MATCHING SCORE AND RECOMMENDATIONS



CANDIDATE REPORT AND SUGGESTION

3. Additional Screening Recommendations:
- Technical Assessments:
  - Object-oriented programming
  - Machine Learning
- Background Verification:
  - Education and work experience
- Reference Check Focus:
  - Technical skills
  - Problem-solving abilities

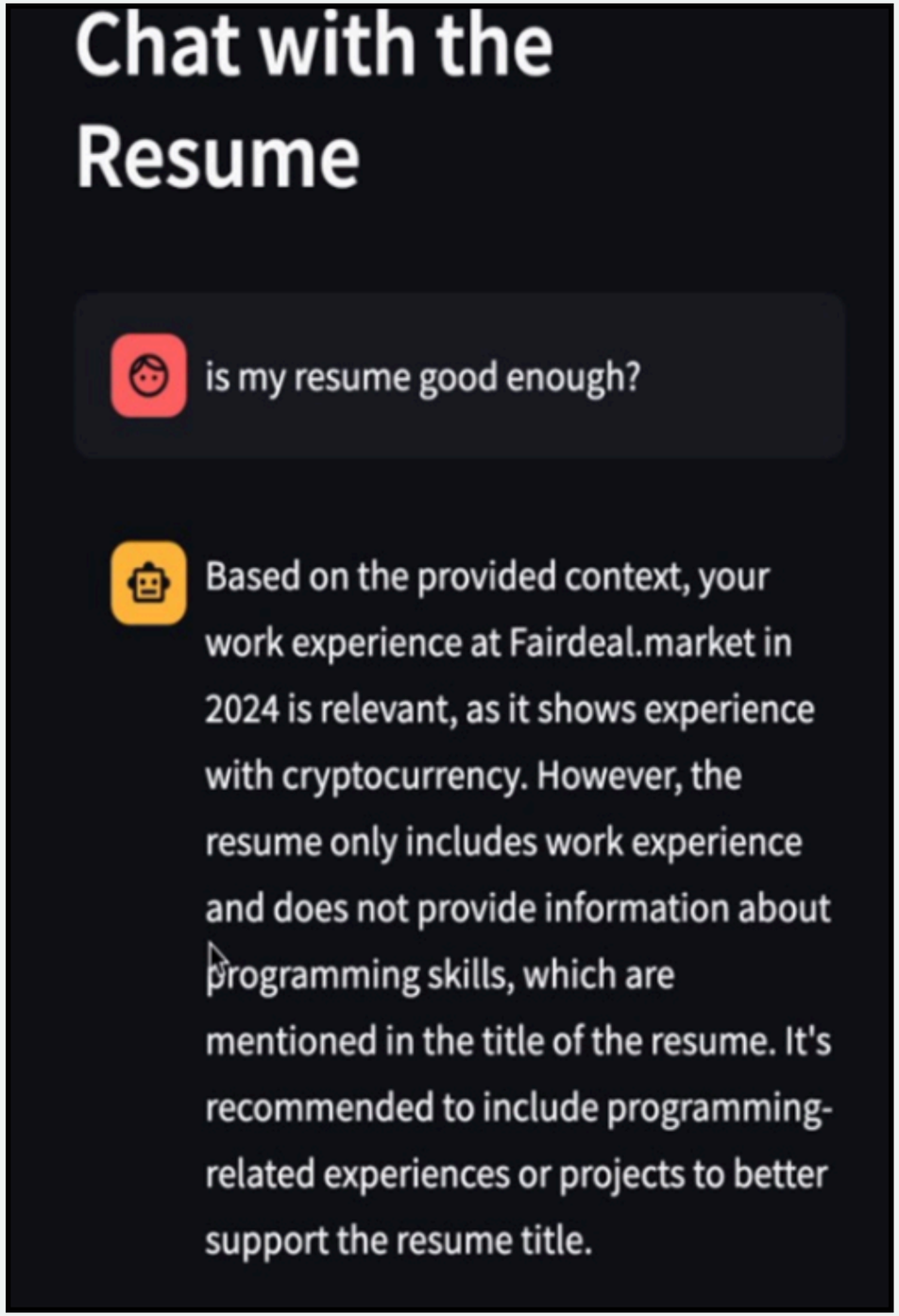
  - Communication and teamwork skills

COMPETITIVE ANALYSIS:
- Market Position: The candidate's skills and experience are in high demand in the tech industry.
- Salary Range Alignment: The candidate's expected salary range is competitive for their experience level.
- Growth Potential: The candidate has the potential for career growth within the manufacturing industry.

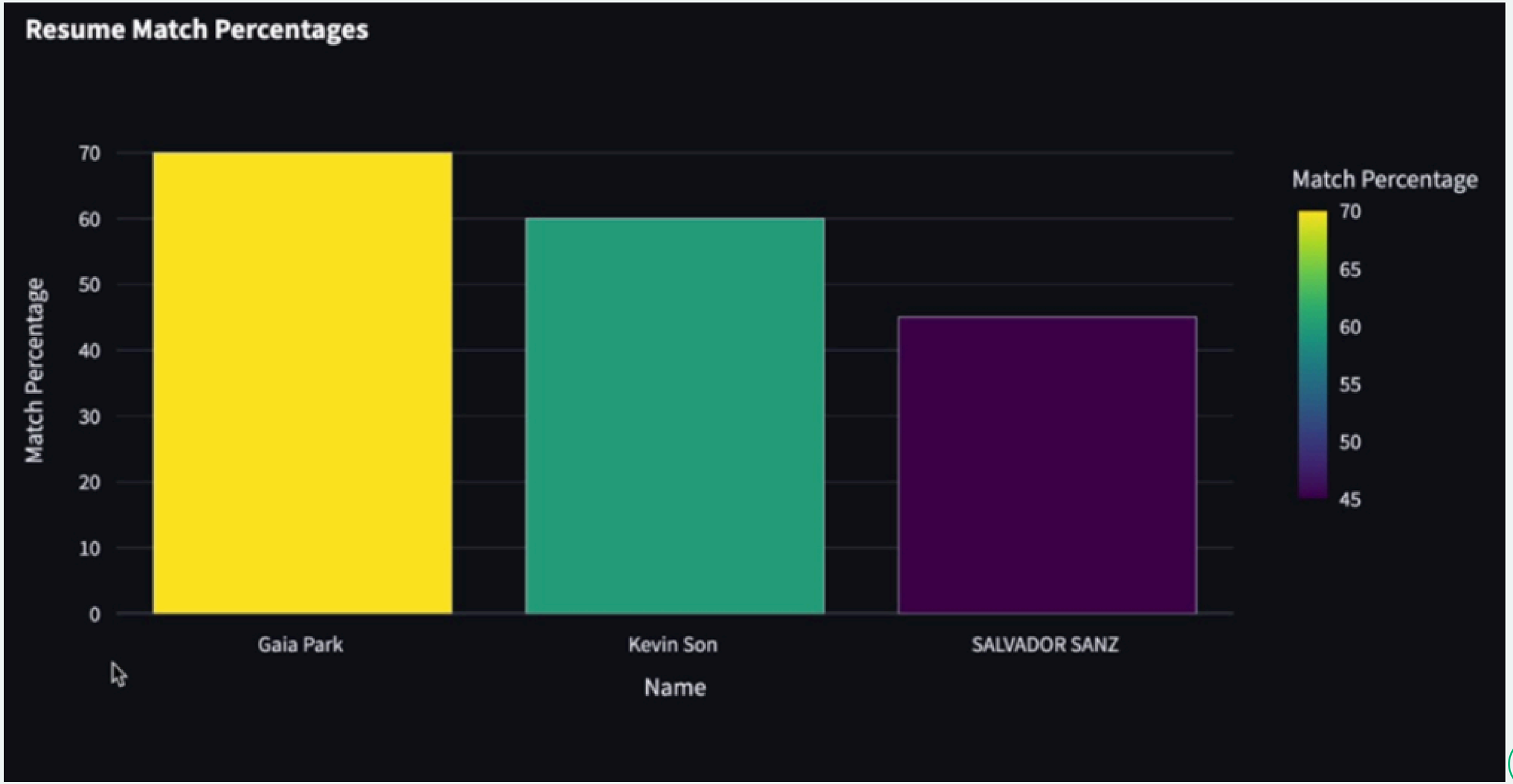
FINAL VERDICT:
- Overall Recommendation: Moderate Match
- Key Strengths:
  - Strong technical skills in Python, Machine Learning, Cloud Computing, and DevOps.
  - Experience in internships and project work.
  - Good academic record.

- Critical Gaps:
  - Lack of Angular/Node experience.
  - Limited industry experience.
  - Gaps in Robotics and Control Systems.

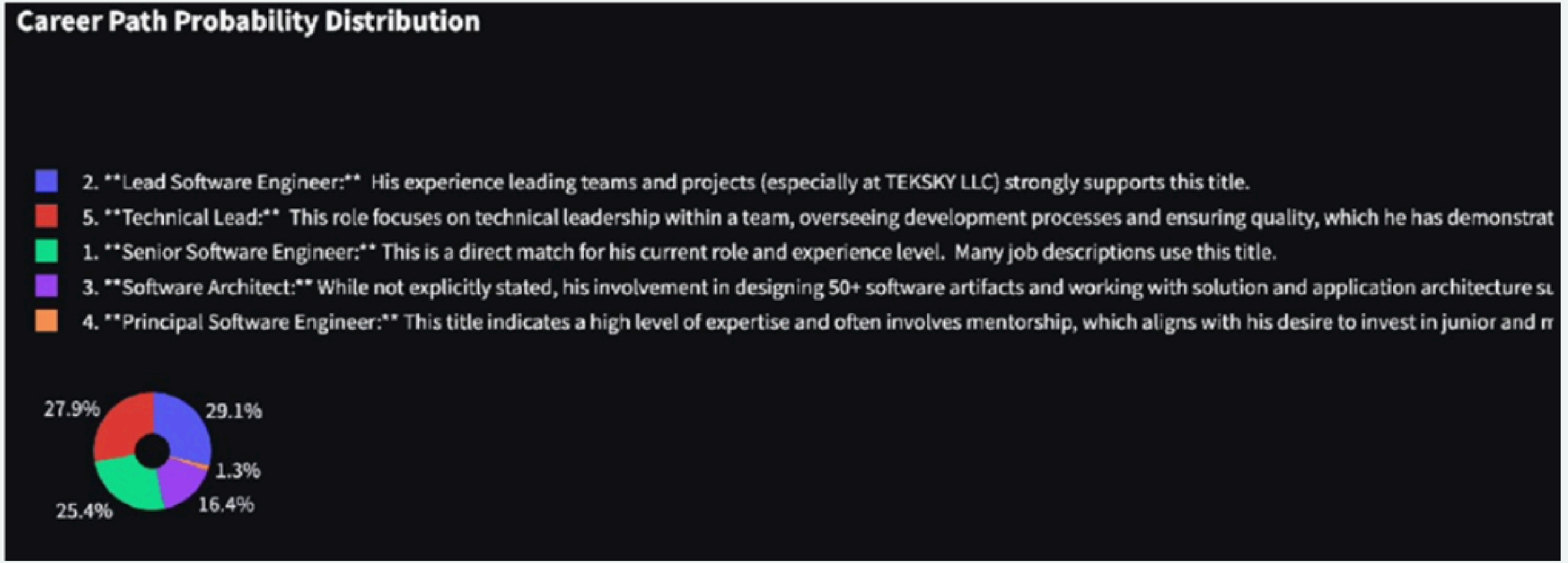
CHATBOT SUPPORT FOR STUDENTS



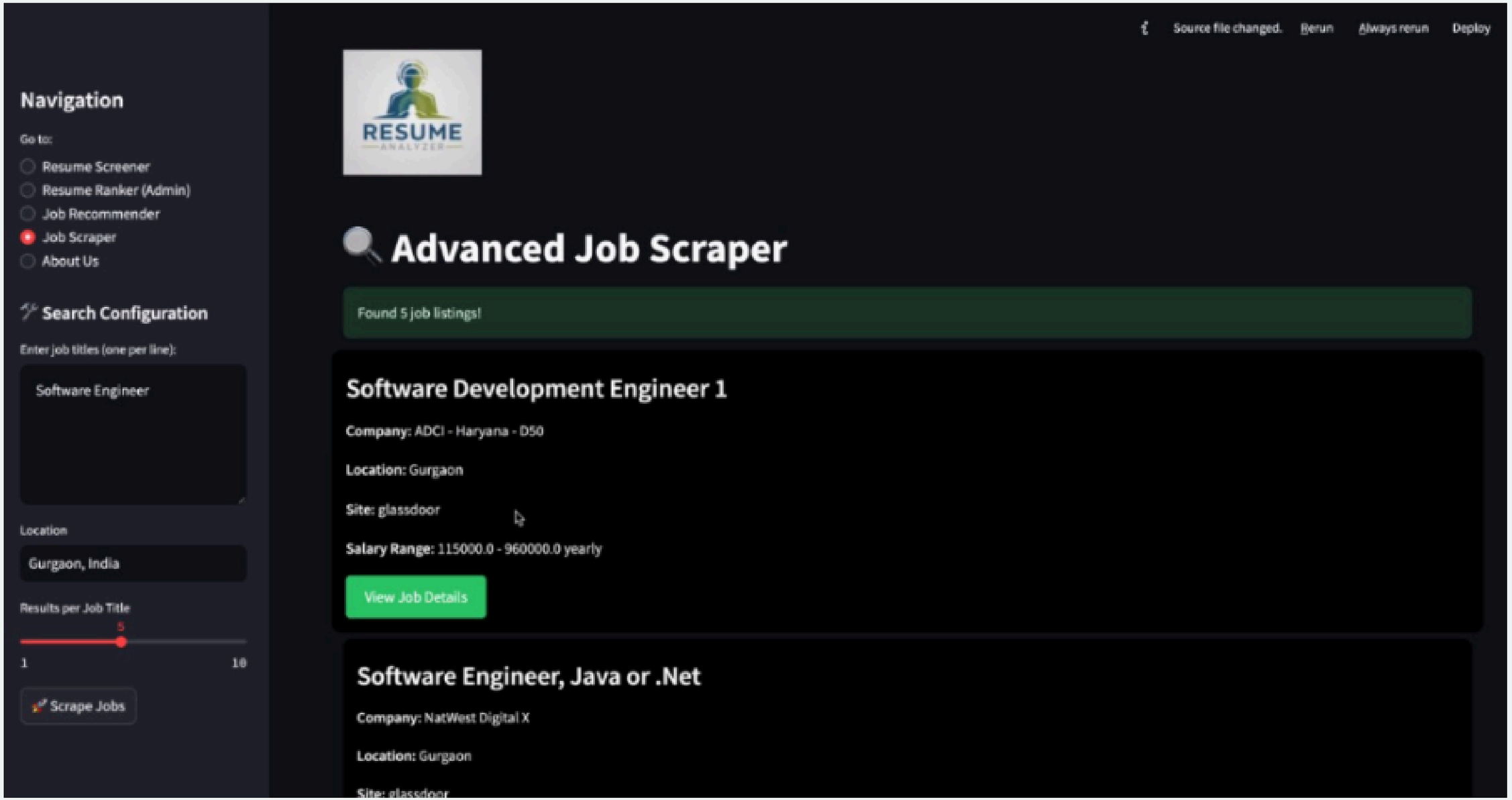
ADMIN PANEL AND RECRUITMENT INSIGHTS



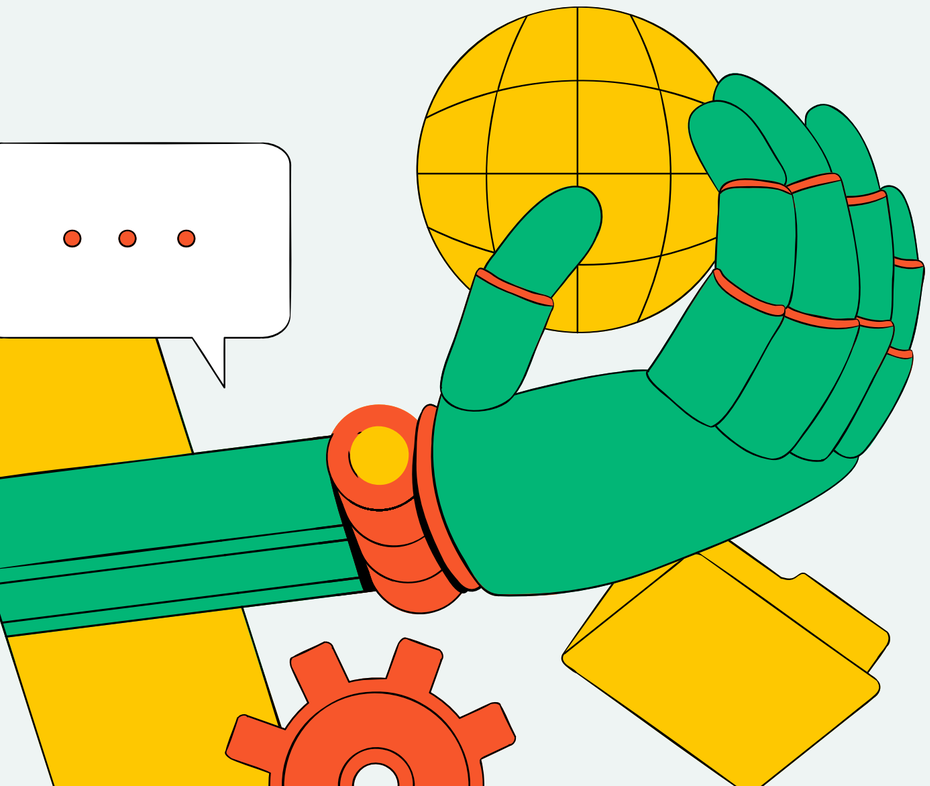
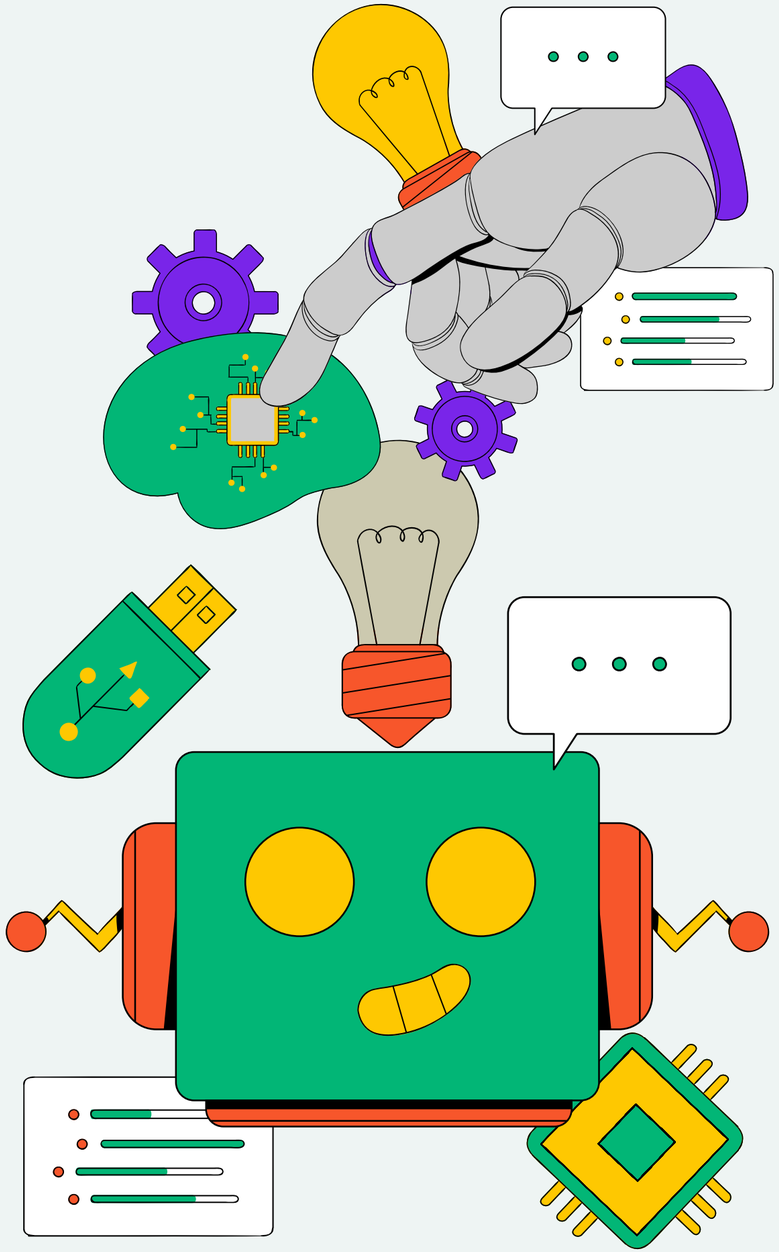
JOB RECOMMENDATIONS AND VISUAL ANALYSIS



JOB SCRAPPER



DEMO AND FUTURE SCOPE



THANK YOU