22AIE311 –SOFTWARE ENGINEERING

AI-Based Resume Analyzer

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ABSTRACT :

In today's fast-paced job market, both recruiters and job seekers face challenges in resume evaluation and optimization. This project introduces an AI-Based Resume Analyzer, a smart system that leverages **Natural Language Processing (NLP) and Machine Learning (ML)** to automate resume screening and provide valuable insights for both recruiters and applicants. The system extracts key information such as **skills, experience, education, and certifications**, then matches them against job descriptions to rank candidates based on relevance.

For recruiters, the tool utilizes **Named Entity Recognition (NER)**, keyword extraction, and classification algorithms to categorize resumes efficiently, generate visual analytics, and provide a resume scoring mechanism for better decision-making. For applicants, it offers personalized recommendations, including missing skills, suggested courses, predicted job roles, and resume improvement tips, helping them enhance their resumes and increase their chances of landing their desired jobs. With the integration of deep learning models such as BERT and spaCy, the system ensures fair, unbiased evaluations while improving recruitment efficiency.

This project highlights the practical application of **AI in HR technology**, offering a scalable, data-driven solution that enhances hiring processes, helps applicants

refine their resumes through **self-assessment**, and ultimately bridges the gap between job seekers and employers.

Keywords : automate resume screening ,visual analytics ,unbiased evaluations, bridges