

AI-Based Resume Screening Chatbot for HR Management

Abstract:

Recruitment is a resource-intensive process that can be streamlined using AI. This project proposes an **AI-based resume screening chatbot** that uses **Natural Language Processing (NLP)** to automatically assess resumes and rank candidates based on predefined job criteria.

Methodology:

The system will utilize NLP techniques like **keyword extraction**, **semantic analysis**, and **named entity recognition** to extract relevant information from resumes, such as skills, experience, education, and certifications. The chatbot will then compare this information against job descriptions to assess candidate suitability. Using machine learning models like **logistic regression**, **decision trees**, or **deep learning models (e.g., BERT)**, the system will predict candidate fit. Furthermore, it will conduct an initial interview through a conversational interface, enabling the chatbot to assess soft skills like communication and personality traits.

Outcome:

The expected outcome is the automation of the resume screening process, reducing the time spent by HR professionals in reviewing applications. The system will help eliminate human bias, standardize the hiring process, and provide more data-driven hiring decisions. Over time, the chatbot will improve its predictive capabilities by learning from historical hiring data.