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Candidate Assessment Tool Using AI and ML for Industries

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Abstract: *Automated resume parsing plays a vital role in contemporary recruitment practices, facilitating the effective extraction of pertinent candidate information from resumes. Conventional techniques often depend on keyword matching, which may lack precision and fail to capture contextual significance. This paper examines the utilization of Named Entity Recognition (NER) for automated resume parsing, presenting a more precise and context-sensitive methodology. NER, a branch of natural language processing (NLP), focuses on identifying and categorizing entities within text into established classifications such as names, locations, dates, and job titles. In the realm of resume parsing, NER models can be trained to identify and extract essential information, including candidate names, contact information, educational credentials, work history, and skills. This method not only enhances the accuracy of data extraction but also minimizes the necessity for manual intervention, thus accelerating the recruitment process. The proposed NER-based resume parser employs machine learning algorithms, particularly those tailored for sequence labeling tasks, to autonomously identify and classify relevant information from diverse resume formats. By addressing common issues such as variations in resume layouts and the existence of unstructured text, this system can significantly improve the efficiency of recruitment workflows, allowing organizations to swiftly shortlist candidates based on specific criteria. This paper outlines the development, training, and assessment of the NER model, highlighting its potential to transform resume parsing within the hiring framework.*

Keywords: Automated Resume Parsing, Named Entity Recognition (NER), Natural Language Processing (NLP), Machine Learning, Recruitment Automation, Information Extraction, Sequence Labeling