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AI-Driven Assessment of Employee Confidence in Recruitment: A Psycholinguistic and Behavioral Perspective

Communication Info

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Abstract

Employee confidence is a critical factor influencing recruitment outcomes, decision-making, and long-term job performance. With the increasing integration of Artificial Intelligence (AI) in hiring processes, new opportunities emerge to assess candidate confidence in a more objective, scalable, and data-driven manner [1]. This study explores the use of AI-based models to evaluate employee confidence during recruitment by leveraging psycholinguistic, paralinguistic, and behavioral signals extracted from resumes, interviews, and online professional interactions [2], [3]. The proposed framework combines Natural Language Processing (NLP) techniques with machine learning algorithms to analyze linguistic markers such as assertiveness, sentiment, lexical richness, and discourse coherence, alongside non-verbal cues such as speech patterns and response latency in video interviews. Advanced transformer-based models, including BERT and its variants, are employed to capture contextual nuances and infer latent confidence traits [4]. Additionally, explainability methods such as SHAP and LIME are integrated to ensure transparency and interpretability of the predictions [5]. Experimental evaluation on real-world recruitment datasets demonstrates that AI-driven confidence assessment can significantly enhance candidate profiling, improve hiring decisions, and reduce subjective bias. The findings highlight the potential of combining psycholinguistic analysis with AI to support fairer and more effective recruitment strategies, while also emphasizing ethical considerations related to privacy and algorithmic fairness.

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