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A Systematic Review of Personality Prediction Systems in E-Recruitment: Analyzing CVs and Personal Statements for Enhanced Candidate Screening

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Abstract

E-recruitment has revolutionized the hiring process, enabling organizations to efficiently identify and evaluate candidates through digital platforms. Recently, personality prediction systems have emerged as a crucial tool in this domain. Powered by AI and machine learning, these systems analyze candidates' CVs and personal statements to infer personality traits such as extroversion, conscientiousness, and creativity, aligning job roles with personality profiles. This review examines current research on the methodologies employed in AI-based personality prediction systems, their predictive accuracy, and the ethical considerations surrounding their use. Findings highlight that while these systems offer benefits like enhanced candidate screening and decision-making efficiency, they face challenges, including moderate accuracy due to data variability, algorithmic bias, and privacy concerns in data processing. The review underscores the need for ethical guidelines and diverse datasets to improve these systems and advocates for balancing human judgment with AI-driven assessments. Future recommendations include enhancing model accuracy, addressing biases, and fostering transparent, non-discriminatory e-recruitment practices. This study bridges knowledge gaps by exploring the potential and limitations of personality prediction systems in modern recruitment, contributing to the development of fair and effective AI-driven hiring processes.

Keywords: *E-recruitment, CVs, AI-based, AI-driven, Personality profiles*