

**AUTOMATED RESUME SCREENING AND  
PERSONALITY PREDICTION SYSTEM FOR THE  
UNSTRUCTURED RESUMES BASED ON NATURAL  
LANGUAGE PROCESSING AND MACHINE LEARNING  
STRATEGIES**

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## Abstract

Resume Screening is a necessary step in the process of hiring new employees. Overloading of applications makes job selection process a strenuous task. One of the critical decisions is to select resumes which fit to the Task – Talent, Person – Position and Individual – Institution. Since, Employers have to do this manually for each individual's resume, it is rather laborious and time-consuming. And also resumes are in unstructured different formats. It is very stressful to go through hundreds of resumes. To do it without any bias and to speed up the process Automated Resume Screening and Personality Prediction system is proposed.

To provide a solution for the problem, it divided into two components. First, to identify and calculate skill wise similarities with the job requirement and then, predict the personality of the candidates. In this study, author identifies resume screening problems, issues in existing systems and Machine Learning algorithms. After analyzing above factors and dataset, Author decided to implement ensemble model to predict personality of the candidates.

Therefore, unstructured resume data were used for the skill wise similarity calculation and personality prediction. To predict personality of the candidate's ensemble model was developed using Naive Bayes, Logistic Regression, Support Vector Machine, Random forest algorithms and XgBoost and LightGBM models. The overall feedback of the Resume Screening and Personality Prediction System from technical and domain experts was positive.

*Keywords – Resume Screening, Personality Prediction, Classification, Machine Learning, Ensemble Model*