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# Career Guidance System Using Machine Learning

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**Abstract :** Artificial Intelligence in Education (AIED) has been created to help students get ready for the workforce, and over the past 25 years, it has grown significantly, offering a variety of technologies to support academic, institutional, and administrative services. However, this is still challenging, especially considering the labor market's rapid change. While choosing a career, people face various obstacles because they do not take into consideration their own preferences, which might lead to many other problems like shifting jobs, work stress, occupational infirmity, reduced productivity, and manual error. Besides preferences, people should evaluate properly their technical and non-technical skills, as well as their personalities. Professional counseling has become a difficult undertaking for counselors due to the wide range of career choices brought on by changing technological trends. It is necessary to close this gap by utilizing technology that makes sophisticated predictions about a person's career goals based on their personality. Hence, there is a need to create an automated model that would help in decision-making based on user inputs. Improving career guidance can be achieved by embedding machine learning into the career consulting ecosystem. There are various systems of career guidance that work based on the same logic, such as the classification of applicants, matching applications with appropriate departments or jobs, making predictions, and providing suitable recommendations. Methodologies like KNN, neural networks, K-means clustering, D-Tree, and many other advanced algorithms are applied in the fields of data and compute some data, which is helpful to predict the right careers. Besides helping users with their career choice, these systems provide numerous opportunities which are very useful while making this hard decision. They help the candidate to recognize where he/she specifically lacks sufficient skills so that the candidate can improve those skills. They are also capable of offering an e-learning platform, taking into account the user's lack of knowledge. Furthermore, users can be provided with details on a particular job, such as the abilities required to excel in that industry.

**Keywords :** career guidance system, machine learning, career prediction, predictive decision, data mining, technical and non-technical skills
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