

Synopsis: Career Counselling System using Machine Learning

Introduction

Graduation is synonymous with the end of college and our next step towards our desired careers. While some of us have made firm decisions about our future and planned the next phase of their lives, many of us on the other hand are pondering, "What to do next?", especially for Engineering students who have a plethora of options to choose from. It is imperative for students to introspect and analyse their strengths, weaknesses and interests in initial stages of their education to avoid end moment hastles. My attempt to build a "Career Counselling System using Machine Learning" would help the students(especially in pre-final and final year) to assess themselves on various grounds and decide the best suited job role for them based on their academic and co-curricular performance.

Problem Statement

Building a **Career Counselling system using Machine Learning** to help college students assess themselves on various parameters and choose the right career path for themselves.

Scope

Currently students are more inclined towards their seniors, college professors, mentors and parents for career guidance. Some of them even seek assistance from counsellors. This system is complemented with drawbacks like lack of knowledge in a particular domain, personal interest of people might influence their advice. Today's industry's demands are dynamic and to meet the same there are new opportunities coming faster than ever. People might not be aware of the latest fields open for recruitment, on the other hand, an ML based Career Counselling system can easily incorporate the information about the new career

options open for students. It can be a cost efficient and unbiased substitute to counsellors that can help the young engineering students.

Objective

My career counselling system considers the student's academic performance, technical skills, hobbies, fields of interests, skills and knowledge. The ML algorithms used in the Career Counselling system will be applied on the data provided by the user and best suitable job roles and career options would be suggested to the user.

Process Description

1. Data collection: Collect a data set that includes academic scores in various subjects, analytic capabilities, personal details like hobbies and interests, workshops, certifications, professional experiences etc.
2. Processing the Data: The collected data needs to be organised. The invalid data and unwanted data needs to be removed.
3. Data Encoding: Data's categorical values need to be converted into numerical and ordinal format so that it can be provided to Machine Learning algorithms.
4. Selecting Algorithms: Machine Learning algorithms need to be studied and the algorithms best suited for the Career Counselling system are to be selected.
5. Implementing: The selected ML algorithms are to be implemented on the data set and the algorithms which give the best and most accurate results are to be assessed
6. Testing: The system needs to be tested and feedback has to be taken into account by various users.
7. Improvisation: Necessary Improvisation needs to be done on the basis of feedback.

Resources Required

- 1.Visual Studio Code
2. Operating System- Windows/Linus/MacOS

References

- 1.[Machine Learning - GeeksforGeeks](#)
- 2.[Student Career Prediction Using Advanced Machine Learning Techniques \(researchgate.net\)](#)
- 3.[\(PDF\) Predicting Student Performance using Advanced Learning Analytics | Ali Daud Associate Professor and farhat abbas - Academia.edu](#)