

# Career Bot for Career Prediction of Higher Secondary Students using Decision Tree

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**Abstract:** Career guidance refers to a process that assists individuals, typically students in making informed decisions about their career paths. Career guidance can be delivered through various channels, including career counsellors, educational institutions, online platforms, and self-help resources. It plays a vital role in helping individuals make informed choices that align with their aspirations, values, and capabilities. Traditional career prediction models often lack transparency and fail to consider the diverse and dynamic factors that influence students' career choices. The existing systems may exhibit biases and limitations that hinder accurate and personalized career guidance. The project aims to tackle these problems by developing an Explainable ML (XML) model that provides transparent, personalized, and adaptable recommendations to higher secondary students. The proposed system incorporates Decision Tree algorithms within an Explainable ML framework to provide clear and comprehensible insights into the factors influencing career predictions. It takes into account a diverse set of input features, including academic performance, skills, interests, and extracurricular activities, to offer personalized career guidance to individual students. The project also addresses potential biases in the model to ensure fair and equitable career recommendations for students from varied backgrounds. By combining the power of Decision Tree algorithms with Explainable ML, the project aims to empower higher secondary students in making well-informed decisions about their future careers. The transparency provided by the Explainable ML model enhances user trust and understanding, fostering a more engaging and personalized career prediction system. The project's outcomes are expected to contribute significantly to the field of career guidance, providing a model that is not only accurate but also accessible and comprehensible for students navigating the critical phase of choosing their career paths.

**Keywords:** Machine learning, Decision tree algorithm