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Project Title: AI-Based Career Recommendation & Guidance for Students

Abstract

This project presents a AI-based career guidance website designed to provide personalized academic and career roadmaps for students, particularly those below the 10th grade. The core idea is to assist students in making informed decisions about their future education and career paths by collecting key inputs—such as current grade and area of interest.

The implementation involves creating a small dataset that maps various combinations of student inputs (e.g., "below10" grade and "Technology" interest) to specific roadmap recommendations. These recommendations include guidance on selecting the appropriate academic stream (+2), suggested graduation courses, potential post-graduation or diploma options, and recommended job designations relevant to the chosen field. A Decision Tree classifier, built using scikit-learn and preprocessed with OneHotEncoder, serves as the AI component, predicting a comprehensive roadmap that encompasses both educational trajectories and career opportunities.

The system architecture comprises a Flask-based backend that loads the trained model and exposes an API endpoint for receiving student inputs and returning dynamic recommendations. On the frontend, a HTML form with JavaScript facilitates data entry and displays the personalized roadmap along with recommended job designations. This project also demonstrates how a simple yet effective AI model can be integrated into a web application to offer customized career guidance, ultimately empowering students to make better educational and career choices with clear insights into potential job roles in their chosen field.