Rookies: An Interactive Career Path Guidance System for Computer Science Students Using Machine Learning and Gamification

Choosing a career path is a of the most difficult decision for students, especially in fields like computer science, where available career options and required skills constantly changing. Many students do not know where to start thinking when comes to career. This applies to many people I know and myself. This project aims to develop an engaging interactive career path guidance website, “Rookies”, designed specifically for students interested in computer science careers.

Rookies will use machine learning algorithms including LSTM, BERT to perform sentiment analysis on career reviews dataset, providing students with insights into real-world CS roles, including key benefits, challenges. Additionally, the system will personalize career recommendations based on user quiz responses and interests.

For better user engagement, I will integrate gamified elements such as experience bars, levelling systems, and interactive 3D models, enabling users to explore different career paths in a game-like setting. By combining machine learning with gamification, my goal is to make finding suitable career path intuitive, enjoyable, and aligned with individual expectation. This project shows my passion for combining artificial intelligence and User-centered design to support students in exploring their career paths.