

An AI-based Career Planner for Computer Science Specializations

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We are developing a web-based career planner for the selection of a specialization within the field of Computer Science. While many students have a clear idea about mainstream Computer Science, they may need assistance determining which field within the discipline is more suitable as a career choice. The application helps students self-discover characteristics that lead to specific career recommendations. The three specialization areas explored here are: Cybersecurity, Data Analytics, and Digital Media. The system is modular and can be easily expanded to include additional specialization areas or modified to support additional disciplines. The planner is structured as a multiple-choice quiz with each answer assigning different weights to each of the three specialization areas. The purpose of each question is to identify student preferences that either explicitly or implicitly match one of the specialization areas. A question is selected dynamically, using a combination of probabilistic processing with the support of a random number generator, and an AI component that learns from the preferences that have already been provided through a weighted point system. The webpage is implemented using an underlying HTML and CSS structure. The algorithmic component is designed using PHP. Questions are structured as database tables and are accessed using MySQL as the database management system. The non-deterministic behavior of the system allows for multiple runs of the quiz resulting in increased user confidence with respect to its reliability.