

31 Chatbots: A Modular Framework for AI Guidance in Universities Based on Survey Insights

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Abstract

This paper introduces a modular framework comprising 31 AI-powered chatbots designed to enhance guidance, mentoring, and support for students in the domain of Artificial Intelligence (AI). The bots were created based on responses to a comprehensive university-level survey, addressing multiple facets such as motivation, ethical concerns, skill acquisition, career planning, and confidence levels in AI. Each chatbot is aligned with a specific survey question or theme and aims to provide interactive, personalized, and contextual feedback or resources. This paper highlights the design methodology, implementation using Python and NLP tools, and the evaluated impact on student engagement and understanding.

Keywords

AI Chatbots, Survey-based AI Mentoring, NLP, Higher Education, Student Guidance, AI Learning, AI Ethics, Personalized Education

1. Introduction

The rapid growth of Artificial Intelligence (AI) across domains necessitates educational institutions to ensure that students are not only taught theoretical knowledge but also mentored effectively to navigate their AI learning journeys...

2. Methodology

2.1 Survey Design

A detailed questionnaire was prepared and circulated among university students...

2.2 Data Collection and Analysis

The survey was conducted digitally, and responses were collected over several weeks...

3. Chatbot Development Framework

3.1 Architecture

Each chatbot was built as an independent module using Python...

3.2 Chatbot Themes

Various bots serve purposes from motivation to career advice...

3.3 Implementation

Chatbots were implemented using Jupyter Notebooks for prototyping...

4. Evaluation and Impact

4.1 Usability Testing

Chatbots were tested with students for accuracy, clarity, and motivation...

4.2 Observations

Findings show increased motivation and clarity after interacting with bots...

5. Conclusion and Future Work

This study presents a novel approach to mentoring AI learners via survey-driven chatbots...

Future work includes LMS integration and multilingual capabilities.

References

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