

Personalized Learning Chatbot for Algorithm Demonstration

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Abstract: *Natural language processing (NLP) and artificial intelligence (AI) are revolutionizing education by making intelligent systems like chat-bots and massive language models possible, which facilitate interactive and individualized learning. Along with providing new avenues for educational progress, these technologies improve human-computer connection. But a lot of students still have difficulty in grasping abstract algorithmic ideas, especially in programming languages, because of the drawbacks of conventional, static teaching approaches. Combining conceptual clarity, engaging visual explanations, and natural language engagement is becoming more and more necessary in instructional approaches. Closing this gap can make programming education much more accessible and effective, especially for beginner.*

Keywords: Artificial Intelligence, NLP, Human-Computer Interaction (HCI), Personalized Learning, chat-bot, visual learning, sustainability

