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### **Mind relaxation chatbot for university students by using dense neural network**

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Relaxation is the emotional state of a living being, of low tension, in which there is an absence of arousal that could come from sources such as anger, anxiety, or fear. Technology can be used for mind relaxation. Chatbot is an automated computer software program capable of having intelligent live conversations with people. It is a technology that provides a new way to interact with computer systems. Chatbot responds to user queries in the same language. Chatbot is one of the technologies used successfully in many fields such as education and health field. This study is focused on developing a chatbot model to relax the minds of university students. Since there are already many uses of chatbots for social good, it is a viable solution to create a chatbot capable of encouraging mind relaxing chatbot for university students by adapting the intellect to greater potential. The main purpose of this research is to create a chatbot model to give them comfort and to manage their mental well-being by activating a good listener who is a secret controller through a technological methodology. The intelligent chatbot model was implemented using deep learning algorithm with Natural Language Processing (NLP) techniques. Natural Language Processing requires modeling complex relationships between the semantics of the language. Deep learning facilitates the complexities of the NLP to be easier to model and can stimulate the creation of a chatbot that has a real conversation with a person. Chatbot model was developed using Feed Forward Dense Neural Network (DNN) with two hidden layers. The input layer is the bag of words of the patterns. The number of neurons in the input layer is the same as the size of the vocabulary. Neurons in the output layer represent greeting, feeling, relaxation, advice, motivation and goodbye tags. Then the chatbot tool was trained with a series of counselling conversations. Training phases included intents, tags, patterns and responses. The primary functions of chatbot are to understand the intents of students and to respond to them appropriately. Input and Output are in the form of text. After a successful compilation of code in pyCharm IDE, the model gets trained in 1000 epochs. The developed solution allows for easy deployment and development if changes need to be made. It can be ported virtually in any system that can host a python environment.

**Keywords:** Artificial Intelligence, Chatbot, Dense Neural Network, Mind Relaxation, Natural Language Processing