

Artificial Neural Network (ANN) is a kind of powerful Artificial Intelligence (AI) model inspired by the structure of a biological neural network and Explainable Artificial Intelligence (XAI) is a concept to emphasize the importance of the interpretability of the output of AI models for people. But the potential of XAI in other fields, including education, can be still extracted since most applications of XAI are confined to researchers and developers, but the people who lack professional language cannot use applications based on XAI ideas to increase their knowledge. This dissertation compares two existing projects: ANN Playground, developed by TensorFlow and Language Interpretability Tool (LIT) maintained by Google Research. We make a summary of their strengths and weaknesses and design our Web application called ANN LAB. We choose a sentiment analysis problem, a subtype of Natural Language Processing (NLP), as the context of using four kinds of ANN models and showing the internal details. Besides, we have also implemented the visualization of the corpus called IMDB, which we use to train the models to allow users to gain knowledge about the impact the corpus will have on the performance of ANN models. Finally, to ensure the effectiveness of self-implemented ANN models, we choose AUC and ROC as the metrics to evaluate the models.