# Textual Origin Classification and Implicit Bias Detection with Deep Recurrent Neural Networks

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Detecting the origins of newspaper articles is a challenging task. With the recent rise in machine learning, it is highly possible to apply machine learning models to textual origin classification problems and also to identify underlying bias in text documents. Gathering thousands of newspaper articles about a dividing issue among party lines, in this case President Donald Trump, allows a neural network to find patterns in how information is presented in order to determine where the information came from. I train a state-of-the-art deep learning model to predict the news source of a given sentence from four newspapers and find that a recurrent neural network achieved high accuracies in predicting the news source origin of an article. Statistical analysis and a large testing size further support these results. The model also distinguishes between liberal and conservative newspaper viewpoints and identifies phrases most indicative of certain news sources. This model has the potential to be applied in various mass-media markets and in apps like Apple News and in Internet browser extensions to encourage accurate news reporting and to promote general knowledge within the American population. Applying this model in marketing would allow companies to identify keywords in advertising that may illicit a certain response from the general public.

**Awards Won:**

Fourth Award of $500