

## Extensive Questions for Lecture 2 (NLP)

*Please answer the following questions and submit your report in digital form by one week, through emailing to [po.chun.huang@mail.ntut.edu.tw](mailto:po.chun.huang@mail.ntut.edu.tw) with email title "[EMBA2022][HW1]" followed by your name. If you have finished the coding assignments earlier than expected, please do the report in class.*

1. Detecting sarcasms is important for sentiment analysis. Besides sarcasms, can you list at least two other metaphors in the texts in natural languages that are valuable to be analyzed? What are the potential applications of these metaphors?
2. Afterwards, please do an internet search and compare your proposals to the existing works. Discuss any potential applications, drawbacks, or limitations in these existing works and your proposal. (P.S. It is completely OK if your proposal is inferior than the existing works. However, such a research process is helpful for you to extend what you have learned to a wider spectrum of potential applications.)
3. Text generation is the opposite direction to text analysis/modeling. Based on sentiment analysis, we may use AI-based or statistics-based methods to generate artificial texts, such as sport news<sup>1</sup>. As extensive studies, please take a look at *generative neural network (GANs)*, what are they, how they detect artificially generated texts, and discuss potential marketing opportunities behind the artificial generation and detection of natural-language texts.

[1] <https://pressgazette.co.uk/automated-journalism-united-robots/>