# Introduction

Following the management team’s interest in our model to predict stock market price using NLP techniques on news articles, they have shown an interest in the training of a model that is able to improve company performance using text data. To achieve this our team analyzed the contents of Nvidia related news articles and identify the topics that are present in these news articles.

To achieve this topic modelling was used for this analysis. By applying topic modelling techniques, we intend to uncover the content of the Nvidia related articles. This report relays the insights gained, inner workings and results of using three distinct topic modelling algorithms, namely Latent Dirichlet Allocation (LDA), Formal Latent Semantic Analysis Weighted (FLSA-W), and BERTopic.

In the following sections the technicalities of these algorithms will be explained, and an overview of their performance will be given. Additionally, the topic modelling outcomes under various environmental changes will also be presented. Finally, the limitations of these algorithms and the manner in which our findings could be applied to real-world financial companies will be discussed.

# The Topic Modelling Algorithms

This section explains how each of the topic models function, extract useful information from the Nvidia news articles along with their weaknesses and strengths.

## LDA

## FLSA-W

## BERTopic

# Analysis