

# HW4

---

Here we offer the dataset, Google AI published Research, which is crawled from(<https://ai.google/research/pubs/>).In this dataset, we only offer ‘title’ and ‘abstract’ and concatenate both (Google\_AI\_published\_research.csv).

1. Preprocessing of dataset (Transforming the text instances into a tokenized word vector matrix which is an matrix for demonstrating the contents in  $D$  documents with  $v$  word. Each row represents a document instance while each column stands for a selected word)
2. In this homework assignment, we will need to use five methods to cluster. Note that  $\text{method} \in \{\text{LDA}, \text{Agglomerative}, \text{KMeans}, \text{KMeans++}, \text{FCM}\}$ .
3. How do you select the parameters?
4. Note that the number of clusters must be greater than 2.