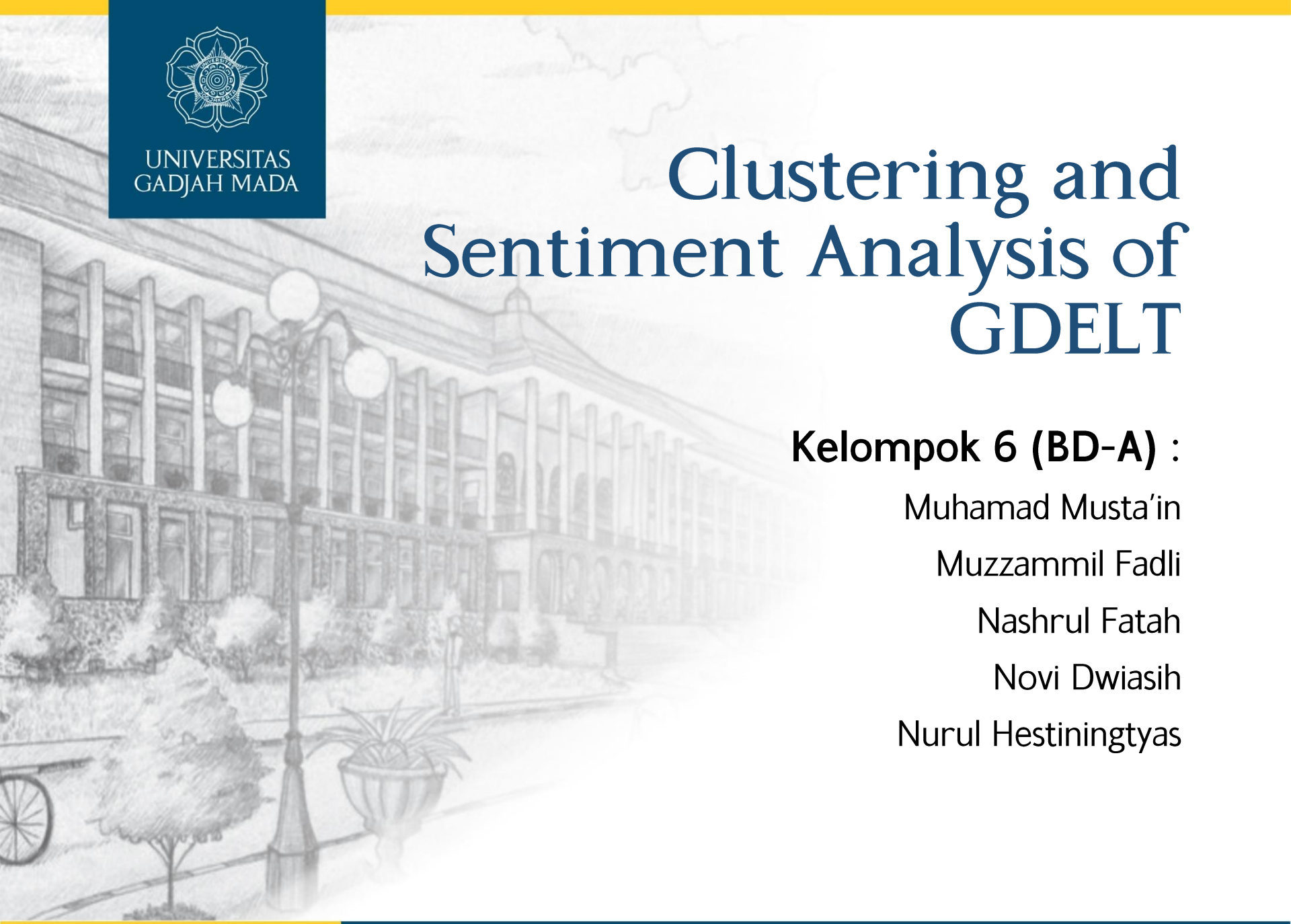

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# Clustering and Sentiment Analysis of GDELT


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# Metode yang Digunakan



**Sentiment Analysis**

Metode :

1. Naïve Bayes
2. Neural Network
3. K-NN
4. Decision Tree
5. SVM

**Clustering**

Metode :

1. KMeans

# Contoh Perhitungan

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## Sentiment Analysis


klasifikasi

1 (positif), 0 (netral), -1 (negatif)

Validasi menggunakan K-Fold Cross Validation dengan n_split = 5 dan n_repeat = 10

| Metode | Akurasi |
|---|---|
| Naïve Bayes | 84,21% |
| Neural Network | 83,48% |
| SVM | 80,69% |
| k-NN | 75,36% |
| Decision Tree | 72,84% |

## Clustering


62763 berita

Dikelaskan berdasarkan keyword

Global Warming
Penyebab Alami
Perubahan Iklim
Mitigasi
Penyakit

Dikelompokkan

Trend

Bukan Trend

# Hasil Sentiment Analysis

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```
1 test1 = ['every day, the numbers of people switching to electric cars, installing solar panels on their
  roofs, and modifying their lifestyle to protect the environment are increasing and encouraging. besides
  individual efforts to "go green," there are many organized efforts that we can commend for their efforts
  and progress. corporations, individuals, and non-profit organizations have initiated a host of voluntary
  programs. the following examples indicate the range of actions: the carbon disclosure project is the
  largest global collection of self-reported information. it enables companies to measure, disclose, manage,
  and share climate change and water-use information. some 650 u.s. signatories include banks, pension funds,
  asset managers, insurance companies, and foundations. \n many local governments are undertaking initiatives
  to reduce greenhouse gas emissions. for example, over 1,055 municipalities from all 50 states have signed
  the u.s. mayors climate protection agreement, and many of these communities are actively implementing
  strategies to reduce their emissions.']
2 test1 = [k.lower() for k in test1]
3 new_article_vect = vect.transform(test1)
4 nb.predict(new_article_vect)[0]
```

```
'1'
```

```
1 test1 = ['scientists have high confidence that global temperatures will continue to rise for decades to
  come, largely due to greenhouse gases produced by human activities. the intergovernmental panel on climate
  change (ipcc), which includes more than 1,300 scientists from the united states and other countries,
  forecasts a temperature rise of 2.5 to 10 degrees fahrenheit over the next century. according to the ipcc,
  the extent of climate change effects on individual regions will vary over time and with the ability of
  different societal and environmental systems to mitigate or adapt to change. the ipcc predicts that
  increases in global mean temperature of less than 1.8 to 5.4 degrees fahrenheit (1 to 3 degrees celsius)
  above 1990 levels will produce beneficial impacts in some regions and harmful ones in others. net annual
  costs will increase over time as global temperatures increase. "taken as a whole," the ipcc states, "the
  range of published evidence indicates that the net damage costs of climate change are likely to be
  significant and to increase over time.']
2 test1 = [k.lower() for k in test1]
3 new_article_vect = vect.transform(test1)
4 nb.predict(new_article_vect)[0]
```

```
'-1'
```

# Hasil Clustering

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| | GoldsteinScale | NumMentions | NumSources | NumArticles | Clust |
|---|---|---|---|---|---|
| Global Warming | 1.154926 | 7.546109 | 1.460814 | 7.476876 | 0 |
| Penyebab Alami | 0.804687 | 22.620511 | 4.311625 | 22.141509 | 1 |
| Perubahan Iklim | 2.389138 | 6.754617 | 1.406772 | 6.703606 | 0 |
| Mitigasi | 1.945880 | 6.773494 | 1.326265 | 6.689157 | 0 |
| Penyakit | 1.154926 | 18.907201 | 4.042784 | 18.671287 | 1 |

penyebab alami perubahan iklim, penyakit

global warming, perubahan iklim, Mitigasi.