

INTISARI

Analisis Sentimen Mengenai Penerapan Pembelajaran Daring di Masa Pandemi COVID-19 Menggunakan Convolutional Neural Network

Oleh

AULYA HABIBY
16/398498/PA/17459

Pandemi COVID-19 mengharuskan pemerintah untuk menerapkan sistem Pembelajaran Jarak Jauh secara Daring sebagai alternatif. Pembelajaran Daring mendapat banyak opini dari masyarakat, baik dukungan ataupun kritikan. Opini-opini tersebut disampaikan melalui berbagai media, Twitter salah satunya. Penelitian ini melakukan analisis sentimen mengenai opini masyarakat di Twitter tentang Pembelajaran Daring. Analisis sentimen yang dilakukan menggunakan metode *Convolutional Neural Network* dan Naïve Bayes.

Pengujian mendapatkan kecenderungan sentimen negatif mengenai Pembelajaran Daring dengan persentase rata-rata 46% negatif, 30% netral dan 24% positif pada pengujian 3 kelas. Pengujian 2 kelas mendapatkan 82% sentimen negatif dan 18% positif. Hasil yang didapatkan pada pengujian 3 kelas menggunakan *Convolutional Neural Network* yaitu 61.47% akurasi dengan waktu uji 3.53 detik dan 60.14% akurasi dengan waktu uji 0.00182 detik menggunakan Naïve Bayes. Pada pengujian 2 kelas menggunakan *Convolutional Neural Network* didapatkan 87.99% akurasi dengan waktu uji 3.9 detik dan 85.32% akurasi dengan waktu uji 0.00122 detik menggunakan Naïve Bayes. Tidak terdapat perbedaan signifikan pada nilai akurasi menggunakan *Convolutional Neural Network* dan Naïve Bayes. Pada sisi waktu komputasi, Naïve Bayes memiliki waktu komputasi yang jauh lebih cepat dibanding *Convolutional Neural Network*.

Kata Kunci : Analisis Sentimen, Pembelajaran Daring, *Convolutional Neural Network*, Naïve Bayes.

ABSTRACT

Sentiment Analysis of Online Learning During COVID-19 Pandemic Using Convolutional Neural Network

By

AULYA HABIBY
16/398498/PA/17459

The COVID-19 pandemic requires the government to implement an Online Distance Learning system as an alternative. Online Learning gets a lot of opinions from the public, both support and criticism. These opinions are conveyed through various media, Twitter is one of them. This study conducted a sentiment analysis of people's opinions on Twitter about Online Learning. Sentiment analysis conducted using convolutional Neural Network and Naïve Bayes methods.

The test found a tendency of negative sentiment regarding Online Learning with an average percentage of 46% negative, 30% neutral and 24% positive in the 3-class test. The 2-class test received 82% negative sentiment and 18% positive. The results obtained in the 3-class test using convolutional Neural Network were 61.47% accuracy with a testing time of 3.53 seconds and 60.14% accuracy with a testing time of 0.00182 seconds using Naïve Bayes. In the 2-class test using Convolutional Neural Network, 87.99% accuracy was obtained with a testing time of 3.9 seconds and 85.32% accuracy with a testing time of 0.00122 seconds using Naïve Bayes. There were no significant differences in accuracy values using the Convolutional Neural Network and Naïve Bayes. On testing time, Naïve Bayes has much faster testing times than the Convolutional Neural Network.

Keyword : Sentiment Analysis, Online Learning, Convolutional Neural Network, Naïve Bayes