

Klasifikasi dan Segmentasi Citra CT Scan Paru Untuk Deteksi COVID-19 = Classification and Segmentation of Lung CT Scan Images to Detect COVID-19

Zafir Rasyidi Taufik, author

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Abstrak

Coronavirus Disease 2019 (COVID-19) merupakan sebuah penyakit yang disebabkan oleh novel coronavirus SARS-CoV-2. Penyakit yang berasal dari Provinsi Hubei di China ini sudah menyebar ke seluruh dunia, menjangkiti banyak hingga seluruh negara di dunia. Sudah menginfeksi kurang lebih 400 juta jiwa di seluruh dunia pada pertengahan kuartal pertama tahun 2022. Mencegah penyebaran COVID-19 merupakan tindakan yang harus segera dilakukan, salah satu caranya adalah dengan pendeteksian sedini mungkin.

Pendeteksian COVID-19 selain menggunakan metode kedokteran, dapat dipertimbangkan mengenai penggunaan artificial intelligence. Penelitian mengenai metode pendeteksian COVID-19 menggunakan citra X-Ray yang telah dilakukan oleh Dhita menuai hasil yang cukup sukses. Menambahkan penelitian tersebut, kami melakukan metode pendeteksian menggunakan citra CT Scan.

Beberapa penelitian mengenai pendeteksian COVID-19 menggunakan citra CT Scan seperti Tang et al. meneliti mengenai segmentasi citra CT Scan terhadap daerah local lesi terindikasi COVID-19 atau Pneumonia. Rahimzadeh, Attar, and S. M. Sakhaei juga melakukan penelitian sebelumnya mengenai pengklasifikasian pasien COVID-19 menggunakan citra CT Scan dengan mendapatkan hasil 90% akurasi dengan menggunakan metode FPN.

.....Coronavirus Disease 2019 (COVID-19) is a disease caused by the novel coronavirus SARS-CoV-2. This disease which originates from the Hubei Province in China has already spread throughout the world, reaching many if not all countries in the world. There have been more than 400 million people infected across the globe as of the first quarter of 2022. Prevention of the spreading of the disease is very important, and one of the best ways to do so is to detect its infection as soon as possible.

Aside from asking a doctor, the task of detecting COVID-19 using artificial intelligence has been considered. The research done by Dhita to detect COVID-19 using X-ray images has been seen as a success. Adding to that, we attempt to detect COVID-19 using CT Scan images.

A couple research papers about detecting COVID-19 using CT Scan images such as the ones done by Tang et al. tried to segment CT Scan images related to the lesions that indicate COVID-19 or Pneumonia. Rahimzadeh, Attar, and S. M. Sakhaei also conducted research related to classifying COVID-19 patients using CT Scan images and found success at 90% accuracy with an FPN model.