# COMPUTER VISION AND DEEP LEARNING APPROACH FOR SOCIAL DISTANCING DETECTION DURING COVID-19 PANDEMIC

By

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## STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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# ABSTRACT

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Since December 2019, cases of the coronavirus or known as COVID-19 have spread throughout the world through several types of disease spread. to date, the total cases of COVID-19 have reached 78 million cases and the death rate has reached 1.7 deaths. one way to reduce the spread of this virus besides wearing a mask and always washing hands is social distancing. social distancing allows people to be 6 feet (2 meters) away from other people so that the potential for spread can stop. So far, the regulations for maintaining social distance are still being guarded by officers as well as several signs to maintain their social distance. This research aims to make new breakthroughs to maintain human social distance using computer vision and deep learning and this system can encourage humans to always maintain their social distance in the form of an alarm sound by combining the YOLO and Detectron2 detection algorithms. Research has been conducted by the development of cameras to record people in queues and send video to deep learning to detect people and their distance from each other. The results show significant distance measurement results with only 1 centimeter error, as well as proper human detection with an alarm form to encourage humans to maintain their social distance.

*Keyword: COVID-19, Social Distance, Computer Vision, Deep Learning, YOLO, Detectron2.*

## DEDICATION

This study is wholeheartedly dedicated to my beloved wife and parents, who have been our source of inspiration and gave me strength when I thought of giving up.

To Infinitigroup. who has provided funding and support during the study period.

And lastly I dedicated to the Almighty God, thank you for the guidance, strength, power of mind, protection and skills and for giving us a healthy life.

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I have found my coursework throughout the Curriculum and Instruction program to be stimulating and thoughtful, providing me with the tools with which to explore both past and present ideas and issues.

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