



**Prediction Models for Airborne Infection Risk and Public Health Measures in Learning Environments Using Artificial Intelligence (AI)**

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**Abstract:** While the United Nation's sustainable goals focus on human health, well-being, and quality education of world population, nationwide closures of elementary and secondary schools due to the novel coronavirus disease (COVID-19) have severed nearly 60 million students from critical educational and health resource. The objective of this proposal is to establish a research and teaching framework for AI-based infection risk analysis for creating clean and healthy school environments. Results from this study will be widely applicable and relevant to the design, operation, and maintenance of densely occupied learning environments as well as social policies to control infectious diseases transmission in school buildings.