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| **Abstract:** |  |
| According to the concern of WHO the less association of people in an office may restrict the likelihood of spreading this COVID-19 infection. And it applies to all kinds of organizations. On the other hand, the pharmaceutical companies are working hard to maintain uninterrupted production of vaccine and medicines. This paper focuses on the main layer which is the power system management and its utilization through the less involvement of any individual. Automation and controlling the system remotely can be a good solution. In the design process the FDA proposed structure for the Pharmaceuticals needs to be maintained as well. One of the significant necessities is most of the energy should come from environment friendly system and in Bangladesh sunlight-based energy is the best solution right now. Solar energy utilization efficiency can be increased using the data logging system and machine learning algorithms from that archived data. In this paper, a SCADA operated Off-Grid Solar PV Automation System has been proposed to increase the utilization efficiency. To predict solar power availability over time and perform efficient energy trafficking, the automation system will analyze previous data and perform situational awareness operations for uninterrupted solar power generation. The proposed automation system has been designed focusing on pharmaceutical manufacturing utilities. A comprehensive analysis of the proposed automation system for pharmaceuticals industry applications has also been presented in this paper. The continuous monitoring system for this Off-Grid Solar PV power generating unit preserves multiple data entries, which increases with time and subjected to energy trafficking. And this energy trafficking based on machine learning increases the overall solar energy utilization efficiency. | |