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| **Abstract:** |  |
| To enhance living conditions and alleviate poverty, emerging nations require energy services that are dependable, accessible, safe, and efficient. This research study proposes an IoT-based smart microgrid system for rural areas with an enhanced control system for an efficient microgrid operation which may, in turn, solves multiple issues in the rural area. The proposed system is a combination of solar and wind power generators, diesel power stations, and backup storage, having the functionality of detecting the instantaneous fault of a branch with the help of the Bewlice lattice diagram and support vector machine algorithm and could be controlled remotely at any moment over the internet. Likewise, a power monitoring system would provide the authorities with technical attributes related to energy that would be utilized to give power to the rural area in an emergency through the Android Application, which can be retrieved and displayed using a cloud platform named ThingSpeak. | |