Short CV

Yuji Mizuno was born in Kyoto, Japan in 1981. He received the M.S. degree in electronics and information science from the Nagasaki Institute of Applied Science, Nagasaki, Japan, in 2010, and the Dr. Eng. degree from the Nagasaki Institute of Applied Science, Nagasaki, Japan, in 2019. Then he received Doctor Course Degree by completing a thesis on *Study on Energy Management of Medical Facility Power Grid* in 2009. From 2010 to 2019, he was a Research Assistant and a Lecturer with Nagasaki Institute of Applied Science. Since 2019, he has been a Contractual Appointed Lecturer with Faculty of Medical Science and Health-Promotion, Osaka Electro-Communication University, Osaka, Japan. His research and teaching interests include the area of energy management system in medical facility. His main research fields are the design of medical safety system and applications. He received the "The Best Paper Award" on icSmartGrid 2020. He is a member of IEEE, IEEJ and JSWE.

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Paper ID: 60

Title: A Prediction of Power Demand using Weather Forecasting and Machine Learning: A Case of a Clinic in Japan

Abstract:
There is a need to accelerate research and development for an energy saving and a demand response using a renewable energy system because the supply and demand of a power is tight worldwide since 2021. Since hospitals and clinics are heavy power demand, there are promote energy conservation by using distributed energy that actively utilizes renewable energy. Recently, clinics installing a photovoltaic (PV) in combination with a diesel generator (DG) for an energy saving and/or a peek cut of a demand have been more. So, it's necessary for medical staff to predict a power demand, assuming an energy saving and/or a short-term operation. Therefore, this paper proposes the prediction method of a power demand for medical facilities using the weather forecasting data. A neural network (NN) of the prediction method is used the weather forecasting data in the area of medical facilities announced by Japan Meteorological Agency (JMA) are gathered for a long-term as an input. As a result, it is shown that power demand can be predicted with high accuracy.