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The application of 3D models for Mapping the potential for solar Photovoltaic Systems in urban areas

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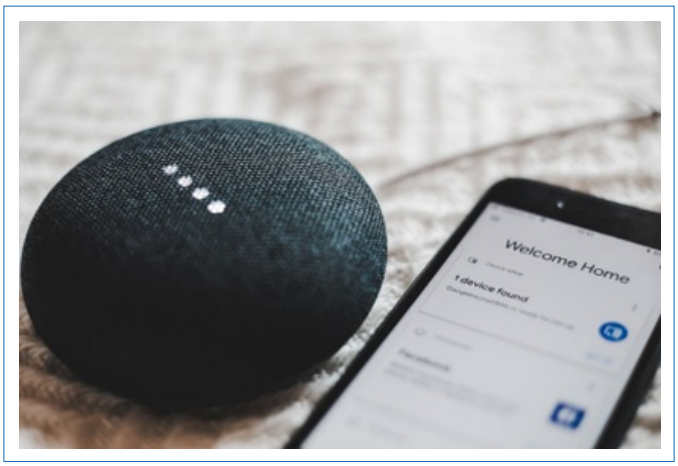
Abstract

Solar energy is the key to a clean energy future. Using the urban environment and rooftops of the buildings is a way which governments use for increasing the generation of solar energy. For solar potential mapping of urban areas two types of information is required: first, the solar irradiance reaches to the rooftop of the building and second, a 3D model of the building. Light Detection and Ranging (LiDAR) is a technology for 3D modelling of building. LiDAR is a method for measuring the distances to objects using laser light and can make digital 3D representations of the objects using point cloud data. methodology for the assessment of solar potential using solar maps and financial analysis which applied by Geographic Information Systems (GIS) and Earth Observation (EO) tools.

The presentation will cover methodology for the assessment of solar potential using solar maps and financial analysis which applied by Geographic Information Systems (GIS) and Earth Observation (EO) tools. It also will focus on challenges of working with big LiDAR point cloud datasets.



Biography

Mostafa joined Insight Centre for Data Analytic as a research assistant in 2019. He is working on "Evaluating Urban Solar Energy Potential" for Ireland which is a part of the Enable project. Mostafa is the GIS specialist and has over 8 years of experience working with GIS. He also has experience in teaching GIS and related courses as a lecturer over 4 years.

Publication

1. Potential survey of photovoltaic power plants using Analytical Hierarchy Process (AHP) method in Iran, Mostafa Azizkhani
2. Mapping Risk of Avian Influenza Using Fuzzy Logic, a case study: Iran
3. Guide to Security Assurance for Cloud Computing, to appear in the Computer Communications and Networks, Springer, 2016

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