Health Effect Assessment of Landscape (HEAL)

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Energy, Environment, AgricultureSoftware

Abstract

HEAL (Health Effect Assessment of Landscape) is a unique technology that creates predictions of possible health outcomes related to urban landscaping projects.

Problem

Urban developments often have few tools that can predict public health risks and detrimental outcomes associated with the design of community greenspace.

Solution

This technology uses a model to estimate the prevalence of non-communicable diseases and physical inactivity resulting from public greenspace design, and can provide estimations of long-term health benefits and community cost-savings.

Value Proposition

This technology would benefit communities, policy makers, and the US Urban Planning Software industry in areas like public health, transportation, and environmental usage, in a way that is cost-effective and time sensitive.

Benefit

Neighborhood greenspace benefits health, yet few tools are available for estimating the health consequences of community greenspace design alternatives, especially prior to the implementation of a landscape design plan. The Health Effect Assessment of Landscape (HEAL) is a technology that predicts the prevalence of poor mental health, coronary heart disease, stroke, diabetes, chronic obstructive pulmonary disease, and physical inactivity through an assessment of greenspace factors. By using high-resolution satellite imagery and remote sensing technologies, landscape spatial design characteristics were extracted through spatial pattern analysis, allowing the measurement of verdancy, fragmentation, connectedness, aggregation, and shape of greenspaces. HEAL utilizes this greenspace information, social demographic information, and geographical factors to be considered in urban space planning. It can also consider other important factors such as transportation, land use, and environmental usage when planning for a specific landscaping area.With increasing population growth, urban planning has become even more important over the years. With an assessment designed to predict health outcomes related to building around greenspaces, this technology can benefit businesses, individuals, and the general population’s health alike. It provides urban planning software industries with the ability to predict the possible outcomes and effects of their plans. This allows them to plan and adjust their designs in a timely manner. This is especially helpful for environmental factors that influence individuals occupying certain geographical living spaces. This technology will benefit private and public sectors in their efforts to design and craft urban landscapes in a way that is cost-effective, time sensitive, and beneficial to society.

Market Application

The potential markets that would use this technology are concentrated in the US Urban Planning Software industry.

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Publications

- https://www.sciencedirect.com/science/article/pii/S0169204623003092

Intellectual Property

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