

1 of 996 DOCUMENTS

Stock Watch

February 23, 2016 Tuesday 6:30 AM EST

Facebook uses Artificial Intelligence to Map Population Density Precisely

BYLINE: John DiPietro

LENGTH: 510 words

Facebook has showcased its Artificial Intelligence skills by mapping population density with a high degree of accuracy. **Facebook's Connectivity** Labs team has shared some interesting data behind its artificial intelligence project that can be used to map world population and improve internet connectivity for people at remote locations. The project could help in improving wireless communication technologies and offer better connectivity, **Facebook** added.

Facebook launched **Connectivity** Labs in spring 2014 to figure out how the company can improve internet access across the world, mainly in rural and remote areas. **Connectivity** Labs team ponders upon ideas to develop new technologies for efficiently providing internet access.

Yael Maguire from **Facebook's Connectivity** Labs said, "We realized we couldn't answer that question-and it's a very basic question. It is a needle-in-the-haystack problem. We wanted to build a map for what the best technologies would be. The data that [already existed] was somewhat inadequate to build adequate models for where."

The aim of **Facebook** team is to figure out where people live and to provide them internet access in those regions. At places, where people live close enough, Wi-Fi hotspots offer the best way to provide internet access. In scarcely populated regions, cellular technologies serve the purpose better.

Using computer vision techniques and high-resolution satellite imaging, **Facebook Connectivity** Labs team picked up human-built structures and buildings. As less than one percent of landmass analyzed by the team, contains any human-made structure it will be difficult to implement faster internet access globally.

A Christian Science Monitor report added, "A team of researchers from the group worked with the company's data science, artificial intelligence, and machine learning teams to analyze 350 terabytes worth of images that covered 21.6 million square kilometers across all the countries."

Facebook also plans to release its work to the public later this year, including releasing a combined population data set developed with researchers from the Center for International Earth Science Information Network at Columbia University.

Official **Facebook** post further informed, "Based on the settlement identification we redistributed all the census counts equally over all the buildings found within that census area. This method assumes equal population distribution per building within a census area, which we felt was the least error-prone method of obtaining population densities since it doesn't make any assumptions on the number of people per building and constrains systematic errors to within one census area."

Facebook said, "Many **Facebook** teams have been instrumental in the execution of this project. We collaborated with the Core Data Science team, who brought the expertise in handling large data sets and machine learning; the

Facebook uses Artificial Intelligence to Map Population Density Precisely Stock Watch February 23, 2016 Tuesday
6:30 AM EST

Infrastructure team, who provided the resources required to scale nearly instantaneously, enabling us to perform the analysis of all countries in less than two weeks."

LOAD-DATE: February 23, 2016

LANGUAGE: ENGLISH

PUBLICATION-TYPE: Web Publication

Copyright 2016 Manas Informatics, distributed by Contify.com
All Rights Reserved