Campus Space & Energy Management
A Code+ Project Overview

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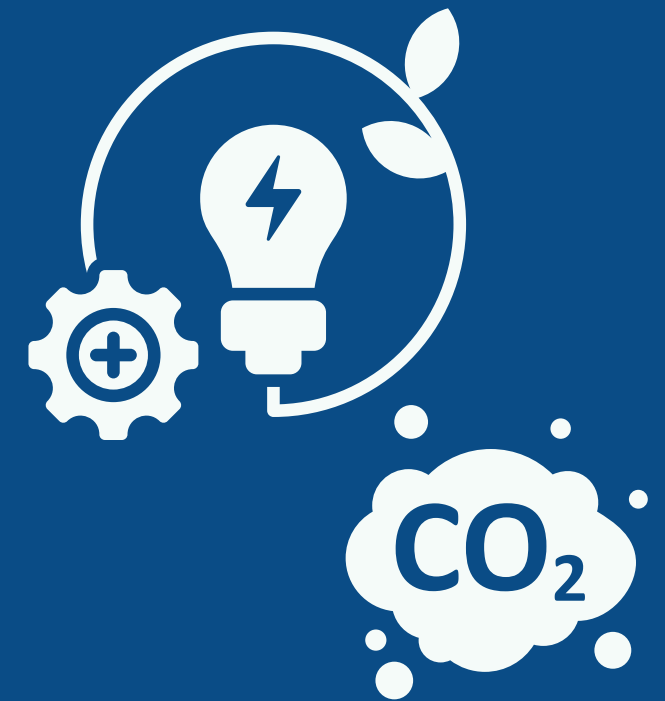**Duke** Campus Space and Energy

1 THE PROBLEM:

Duke Facilities Management (DFM) lacks daily and yearly data on building occupancies, leading to inefficient energy use, high costs, high CO2 emissions, and poor space utilization. This inefficiency hampers Duke's commitment of reducing carbon emissions by 50% by 2030.

2 OUR SOLUTION:

Create **predictive occupancy models** for Duke Facilities using:
- Wifi data
- CO2 levels

Implement these models in an interactive dashboard for easy tracking by DFM.
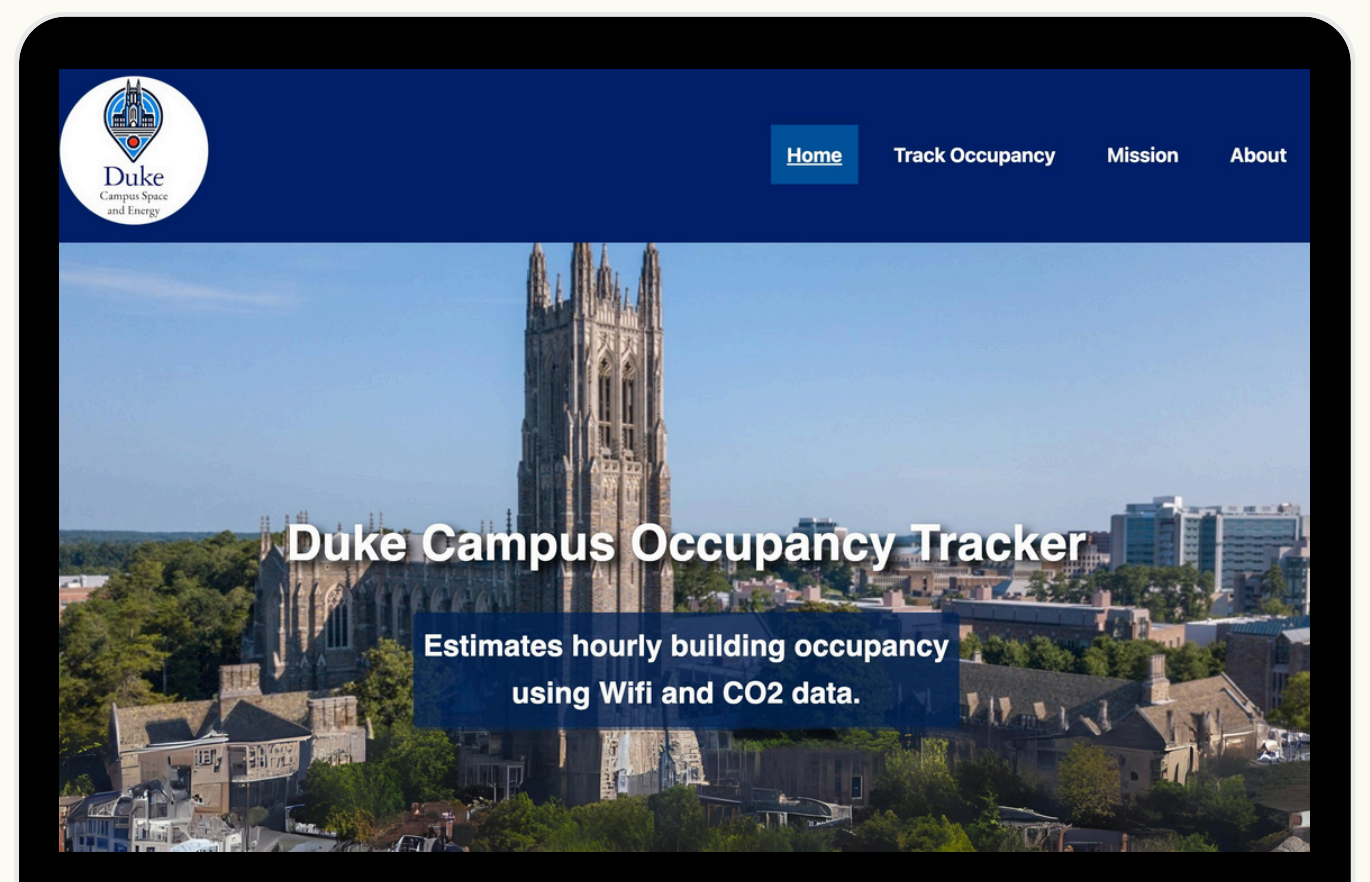
3 DATA USED:

Wifi: connection logs from **access points** across Duke campus
CO2 data: Raspberry Pi with a CO2 sensor.

4 OUR TECH:

splunk> FastAPI jupyter GitLab
PostgreSQL Docker voilà

Duke Campus Occupancy Tracker

Estimates hourly building occupancy using Wifi and CO2 data.

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5 FUTURE STEPS:

- Look other data sources such as temp and bluetooth
- Pull more wifi and CO2 data
- Obtain feedback from DFM

CHECK OUT OUR WEBSITE!!