# Task: Build a Classification model for room occupancy

[Occupancy Detection](https://archive.ics.uci.edu/ml/datasets/Occupancy+Detection+) is an open dataset from UCI Repository containing experimental data used for binary classification of room occupancy) from Temperature, Humidity, Light and CO2. Ground-truth occupancy (labels) was obtained from time stamped pictures that were taken every minute

**Input**: OccupancyDetection table containing the above features, label & train/test columns

**Output**: Training a classification model in Python using scikit-learn that is published in Kusto. Scoring is done from Kusto using inline Python

**Method**: train/test various classical classifiers, chose the one with best accuracy on the test data

Steps:

1. Start Jupyter, install & load Kqlmagic (or use [Azure Notebooks](https://aka.ms/KustoLabNotebooks))
2. Retrieve the OccupancyDetection table from Kusto
3. Create and train few classifiers
4. Check accuracy on test samples, select the best method
5. Serialized the trained classifier to string and publish in selected ML Model table in Kusto
6. Score using classify\_sf() stored function in Kusto

Solution:

* Training notebook: “Prediction-of-Room-Occupancy-from-Kusto-Table-with-Kqlmagic”
* Classify stored function: “Classifier-Scoring.csl”