UC Irvine Machine Learning Repository

Air Quality

Donated on 3/22/2016

Contains the responses of a gas multisensor device deployed on the field in an Italian city. Hourly responses averages are recorded along with gas concentrations references from a…

Dataset Characteristics
Multivariate, Time-Series

Subject Area
Computer Science

Associated Tasks
Regression

Feature Type
Real

 # Instances
9358

 # Features
15

Dataset Information

Additional Information
The dataset contains 9358 instances of hourly averaged responses from an array of 5 metal oxide chemical sensors embedded in an Air Quality Chemical Multisensor Device. The device was located on the field in a significantly polluted area, at road level,within an Italian city. …

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Has Missing Values?
Yes

Introductory Paper

Published in Sensors and Actuators B: Chemical

Variables Table

Variable Name	Role	Type	Description	Units	Missing Values
Date	Feature	Date			no
Time	Feature	Categorical			no
CO(GT)	Feature	Integer	True hourly averaged concentration CO in mg/m^3 (reference analyzer)	mg/m^3	no
PT08.S1(CO)	Feature	Categorical	hourly averaged sensor response (nominally CO targeted)		no
NMHC(GT)	Feature	Integer	True hourly averaged overall Non Metanic HydroCarbons concentration in microg/m^3 (reference analyzer)	microg/m^3	no
C6H6(GT)	Feature	Continuous	True hourly averaged Benzene concentration in microg/m^3 (reference analyzer)	microg/m^3	no

NOx(GT)	Feature	Integer	True hourly averaged NOx concentration in ppb (reference analyzer)	ppb	no
PT08.S3(NOx)	Feature	Categorical	hourly averaged sensor response (nominally NOx targeted)		no
NO2(GT)	Feature	Integer	True hourly averaged NO2 concentration in microg/m^3 (reference analyzer)	microg/ m^3	no

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Additional Variable Information

0 Date (DD/MM/YYYY)
1 Time (HH.MM.SS)
2 True hourly averaged concentration CO in mg/m^3 (reference analyzer)
3 PT08.S1 (tin oxide) hourly averaged sensor response (nominally CO targeted)
4 True hourly averaged overall Non Metanic HydroCarbons concentration in microg/m^3 (reference analyzer)
5 True hourly averaged Benzene concentration in microg/m^3 (reference analyzer)
6 PT08.S2 (titania) hourly averaged sensor response (nominally NMHC targeted)
7 True hourly averaged NOx concentration in ppb (reference analyzer)
8 PT08.S3 (tungsten oxide) hourly averaged sensor response (nominally NOx targeted)
9 True hourly averaged NO2 concentration in microg/m^3 (reference analyzer)
10 PT08.S4 (tungsten oxide) hourly averaged sensor response (nominally NO2 targeted)
11 PT08.S5 (indium oxide) hourly averaged sensor response (nominally O3 targeted)

Dataset Files

File	Size
AirQualityUCI.xlsx	1.2 MB
AirQualityUCI.csv	766.7 KB

Papers Citing this Dataset

SORT BY YEAR, DESC

Boosting for Dynamical Systems
By Naman Agarwal, Nataly Brukhim, Elad Hazan, Zhou Lu. 2019
Published in ArXiv.

Zoom-SVD: Fast and Memory Efficient Method for Extracting Key Patterns in an Arbitra…
By Jun-Gi Jang, Dongjin Choi, Jinhong Jung, U Kang. 2018
Published in CIKM '18.

Combined modeling of sparse and dense noise for improvement of Relevance Vector M…
By Martin Sundin, Saikat Chatterjee, Magnus Jansson. 2015
Published in

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Reviews

There are no reviews for this dataset yet.

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