

Appliance Energy Use Prediction

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Abstract

Introduction

Description of Data

- The data set is at 10 min for about 4.5 months. The house temperature and humidity conditions were monitored with a ZigBee wireless sensor network. Each wireless node transmitted the temperature and humidity conditions around 3.3 min. Then, the wireless data was averaged for 10 minutes periods. The energy data was logged every 10 minutes with m-bus energy meters.
 - Weather from the nearest airport weather station (Chievres Airport, Belgium) was downloaded from a public data set from Reliable Prognosis (rp5.ru), and merged together with the experimental data sets using the date and time column.
 - Two random variables have been included in the data set for testing the regression models and to filter out non predictive attributes (parameters).
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Visualization of Variable Locations



Table of Variables

- All temperatures in Celsius
- All humidity is in % terms
- All energy use in watts per hour

Variable	Description	Variable	Description
date	10 minute intervals	Appliances	energy use of appliances
lights	energy use of light fixtures	Press_mm_hg	
RH_1	Humidity in kitchen	T1	Temp in kitchen
RH_2	Humidity in living room	T2	Temp in living room
RH_3	Humidity in laundry area	T3	Temp in laundry area
RH_4	Humidity in office room	T4	Temp in office room
RH_5	Humidity in bathroom	T5	Temp in bathroom
RH_6	Humidity in north area	T6	Temp in north area
RH_7	Humidity in ironing room	T7	Temp in ironing room
RH_8	Humidity in teenager room	T8	Temp in teenager room
RH_9	Humidity in parents room	T9	Temp in parents room
RH_out	Humidity outside	T_out	Temp outside
Windspeed	in m/s	Visibility	kilometers
rv1	random variable 1	rv2	andom variable 2
Tdewpoint	A*C		

1a

! [Dependent Variable vs Time](#)