

Data Description

The dataset is comprised of three parts, being collected from Dec. 23rd, 2013 to May 9th, 2014.

- 1) The first part is the indoor air quality out streamed from an air quality monitor (Dylos DC1700) installed on a floor of Microsoft's Beijing campus.
- 2) The second part is the outdoor air quality reported by the air quality monitoring station that has the closest distance to the Microsoft campus among all the stations built by Beijing governments.
- 3) The outdoor meteorological data crawled from the official weather publishing website, consisting of temperature, humidity, barometer pressure, and wind speed.

The three parts of data are stored in a file, entitled "data.csv". Each row in the file stands for the data of 10 minutes; the columns are defined as follows:

Indoor air quality ($\mu g/m^3$)	Outdoor air quality ($\mu g/m^3$)	Outdoor Temperature ($^{\circ}C$)	Outdoor Humidity (%rh)	Outdoor Pressure (hPa)	Outdoor Wind Speed (m/s)	Label (x10mins)
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Labels are ranged from 1 to 12, denoting the time that an HVAC needs to reduce the concentration of PM2.5 to a safe range (i.e. under $35\mu g/m^3$). For example,

Label 1 means $0 \leq time < 10$ minutes,

Label 2 means $10 \leq time < 20$ minutes,..., Label 12 means $110 \leq time < 120$ minutes

The data of the first two hours after turning on the HVAC, i.e., 5am–7am, is stored. Each two-hour time slot contains 12 records (one per 10 minutes). Regarding each of the record as a hypothetical beginning time, we obtain 12 instances of real purification time in a two-hour slot. We select data in the workdays (the HVAC is usually shot down in weekends), containing 733 instances from the 150-day dataset (we lost the data of some hours due to the failure of data collection).

Reference

Please cite the following paper when using the dataset.

Xuxu Chen, **Yu Zheng**, Yubiao Chen, Qiwei Jin, Weiwei Sun, Eric Chang, Wei-Ying Ma. [Indoor Air Quality Monitoring System for Smart Buildings](#). In Proceedings of the 16th ACM International Joint Conference on Pervasive and Ubiquitous Computing (**UbiComp 2014**)

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