|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Feature** | **Code** | **Data Source** | **Description** |
| 1 | hour | hour | Mobile App | The hour of a day (24-hour format) when participant sends the thermal comfort vote |
| 2 | age | age | Participants | Participant's age in years |
| 3 | weight | weight | Participant's weight in kilograms (kg) |
| 4 | height | height | Participant's height in meters (m) |
| 5 | gender | gender | Participant's gender (1: male, 2: female) |
| 6 | air temperature | at | BiB Device | Average room air temperature in degrees Celsius (°C) |
| 7 | relative humidity | rh | Average room relative humidity in percentage (%) |
| 8 | metabolic rate | met | Microsoft Band 2 | Participant's metabolic rate in metabolic equivalent (met) |
| 9 | clothing level | cl | Participants | Participant's clothing insulation/level plus the general office chair insulation |
| 10 | heart rate | hr | Microsoft Band 2 | Participant's hear rate in beats per minute (bpm) |
| 11 | skin temperature | st | Participant's skin temperature in degrees Celsius (°C) |
| 12 | actual thermal index | ati (-3-2) | Participants | Participant's actual thermal comfort index, ranging from -3 to +2 |
| 13 | ati (0-5) | Since some algorithms cannot handle negative numbers, we convert ati (-3-2) to ati (0-5) by adding +3, ranging from 0 to 5 |
| 14 | ati (-3-3) | Participant's actual thermal comfort index, ranging from -3 to +3 |
| 15 | ati (0-6) | Since some algorithms cannot handle negative numbers, we convert ati (-3-3) to ati (0-6) by adding +3, ranging from 0 to 6 |

Feature correlation analysis between various features and thermal comfort index

**Table 1 Pearson correlation coefficient analysis**

|  |  |  |
| --- | --- | --- |
| **Feature** | **\*Coefficient** | **p-value** |
| skin temperature | 0.532 | <0.05 |
| air temperature | 0.485 |
| heart rate | 0.248 |
| clothing level | -0.236 |
| relative humidity | 0.113 |
| age | -0.059 |
| hour | 0.058 |
| height | -0.0055 |
| metabolic rate | 0.017 | 0.271 |
| weight | 0.016 | 0.281 |
| gender | 0.014 | 0.353 |

\*Coefficient has the strong association if 0.5 <= || <= 1, the medium association if 0.3 <= || < 0.5, and the weak association if 0 <= || < 0.3.