Data items in the 2025 challenge

April 2025

Each item was collected using participants' Android smartphones or smartwatches, with data sampling intervals ranging from 1 to 10 minutes. It should be noted that certain data items may contain substantial levels of missing data and noise. Participants may not have consistently worn or carried their smartphones or smartwatches throughout the full 24-hour period. Furthermore, sensor measurements and recordings could have been interrupted due to device charging or system reboots.

The detailed structure of individual sensor data items is summarized in Table 1. Each data item is stored as an individual data file and is provided along with the participant ID and timestamp. All timestamps are recorded based on **Korea Standard Time (KST)** and are displayed in the **YYYY-MM-DD HH:MM:SS** format (e.g., 2024-08-01 12:34:56). To protect privacy, certain data items have undergone minimal anonymization. For example, GPS latitude and longitude data are provided as relative coordinates.

Table 1: The detailed composition

Items	Column	Data type	Note
mACStatus	m_charging	integer	0: No, 1: Charging
mActivity	m_activity	integer	0: in_vehicle, 1: on_bicycle, 2: on_foot, 3: still, 4: unknown, 5: tilting, 7: walking, 8: running
mAmbience	m_ambience	object	List of ambient sound labels and their respective probabilities
mBle	m_ble	object	List of bluetooth device address, device_class, and rssi
mGps	m_gps	object	List of (altitude, latitude, longitude, speed)
mLight	m_light	float	Ambient light in lx unit
mScreenStatus	m_screen_use	integer	0: No, 1: Using screen
mUsageStats	m_usage_stats	object	List of app names and their respective usage times (in milliseconds unit)
mWifi	m_wifi	object	List of base station ID(bssid) and rssi
wHr	heart_rate	object	List of heart rate recordings
wLight	w_light	float	Ambient light in lx unit
wPedo	burned_calories	float	Number of calories
	distance	float	Distance in meters
	speed	float	Speed in km/h unit
	step	integer	Number of steps
	step_frequency	float	Step frequency in a minute