Schema Document: DIMO Vehicle Data

The following schema outlines the data captured by the DIMO platform and highlights fields that are commercially valuable for various industries such as insurance, fleet management, automotive manufacturing, AI training, and sustainability analytics.

---

1. Overview

- **Dataset Name:** DIMO Vehicle Data
- **Description:** A dataset containing detailed vehicle information, telemetry data, and user-consented insights generated by connected vehicles via the DIMO API.
- **Source:** Data collected directly from user vehicles integrated with the DIMO platform.
- **Timeframe:** Real-time and historical data availability.
- **Update Frequency:** Real-time or user-configurable intervals.
- **Potential Use Cases:** Insurance risk assessment, fleet optimization, predictive maintenance, EV adoption analytics, AI model training.

---

2. Data Fields

Field Name	Data Type	Description	Example Values	Constraints
`vehicle_id`	String	Unique identifier for the vehicle on the DIMO platform.	`a1b2c3d4e5`	Unique, alphanumeric
`make`	String	Manufacturer of the vehicle.	`Tesla`, `Toyota`	Required, predefined list
`model`	String	Specific model of the vehicle.	`Model 3`, `Camry`	Required
`year`	Integer	Year of manufacture.	`2022`	Valid range: 1900–current year
`mileage`	Float	Current mileage of the vehicle (in miles or kilometers).	`12345.67`	Positive float

`fuel_efficiency`	Float	Fuel efficiency (miles per gallon or equivalent for EVs).	`30.5`	Positive float
`battery_health`	Float	Battery capacity percentage for electric vehicles.	`85.3`	Range: 0–100%
`location`	GeoJSON	GPS coordinates of the vehicle's current or recent location.	`{lat: 37.7749, long: -122.4194}`	Optional, anonymized if needed
`trip_start_time`	Datetime	Timestamp of trip start.	`2024-01-08T08:00:00Z`	ISO 8601 format
`trip_end_time`	Datetime	Timestamp of trip end.	`2024-01-08T08:45:00Z`	ISO 8601 format
`odometer_reading`	Float	Total mileage as per odometer reading.	`50213.2`	Positive float
`engine_health`	Float	Engine health score or status indicator.	`95.0`	Range: 0–100
`vehicle_status`	String	Current status of the vehicle.	`Running`, `Parked`	Predefined values
`emission_data`	Float	Emissions data (CO2 equivalent per mile).	`120.5`	Optional for EVs
`fuel_level`	Float	Current fuel level as a percentage.	`45.0`	Range: 0–100%
`maintenance_events`	String	Records of completed maintenance events.	`Oil Change`, `Tire Rotation`	Predefined list
`diagnostic_codes`	String	Active diagnostic trouble codes (DTCs) retrieved from the vehicle.	`P0300`, `P0420`	Standardized DTC codes

`sensor_data`	JSON	Raw sensor data from the vehicle, including speed, acceleration, and braking patterns.	`{speed: 65, accel: 2.3}`	Structured JSON
`charging_data`	JSON	Charging history for EVs, including session start time, end time, and energy consumed.	`{start: ..., end: ...}`	EV-specific
`trip_summary`	JSON	Aggregate metrics for completed trips (e.g., average speed, distance traveled).	`{distance: 25.4, avg_speed: 45.5}`	Optional

---

3. Metadata

Field Name	Description
`contributor_id`	Unique identifier for the user contributing data via the DIMO API.
`data_timestamp`	Timestamp when the data was collected.
`permissions_scope`	Scope of data access permissions granted by the contributor (e.g., mileage only, full telemetry).
`data_quality`	Indicator of the data's completeness and accuracy (automated score or manual review).
`consent_status`	Verification of user consent for data sharing and commercialization.