

Author: Bappa Muktar

Montreal Road Collision Dataset Dictionary (2012-2021)

This dataset is derived from the public dataset of road collisions that occurred in Montreal, which is accessible at <https://www.donneesquebec.ca/recherche/dataset/vmtl-collisions-routieres>. Unlike the original dataset, this dataset has been preprocessed (handling of missing data, data rebalancing via the SMOTE-ENN algorithm, etc.), and categorical variables have been encoded, making it ready for machine learning and other tasks. The .pkl file containing the encoding and the notebook demonstrating how to use the .pkl file are provided. For more details, please refer to the table below, which represents the data dictionary of this dataset. This dataset is shared under the Attribution License (CC-BY 4.0).

If you use this dataset for publication, please cite the following reference:

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Data Dictionary:

Number	Column name	Description	Value Meaning
1	street_name	Name of the street where the accident occurred	String (length=34)
2	collision_near	Indicator if the collision occurred near a specific landmark or feature	- 0: Not specified - 1: Intersection, - 2: Other landmark,
3	collision_type	Type of collision	- 31: Collision with road vehicle - 32: Collision with pedestrian - 33: Collision with cyclist - 34: Collision with train - 35: Collision with deer (Virginia deer) - 36: Collision with moose/bear/caribou - 37: Collision with another animal - 38: Collision with temporary obstacle - 39: Collision with projected/detached object - 40: Fixed object: lamppost - 41: Fixed object: support/traffic light - 42: Fixed object: pole (public service) - 43: Fixed object: tree - 44: Fixed object: guardrail section

			<ul style="list-style-type: none"> - 45: Fixed object: impact attenuator - 46: Fixed object: guardrail end - 47: Fixed object: pillar (bridge/tunnel) - 48: Fixed object: snow pile - 49: Fixed object: building/structure/wall - 50: Fixed object: curb/sidewalk - 51: Fixed object: fire hydrant - 52: Fixed object: fence/barrier - 53: Fixed object: ditch - 54: Fixed object: rock face
4	surface_condition	Condition of the road surface at the time of the accident	<ul style="list-style-type: none"> - 11: Dry - 12: Wet - 13: Water accumulation (aquaplaning) - 14: Sand, gravel on the road - 15: Slush/melting snow - 16: Snowy - 17: Hardened snow - 18: Icy - 19: Muddy - 20: Oily - 99: Other
5	road_category	Category of the road where the accident occurred	<ul style="list-style-type: none"> - 11: Public road: ramp/collector highway/service road - 12: Public road: numbered road - 13: Public road: main artery - 14: Public road: residential street - 15: Public road: road/rank - 16: Public road: alley - 19: Public road: other - 21: Off-road: parking lot - 22: Off-road: private land - 23: Off-road: private road - 24: Off-road: forest road - 25: Off-road: marked trail - 29: Off-road: other
6	longitudinal_location	Longitudinal location along the road where the impact occurred	<ul style="list-style-type: none"> - 31: Roundabout - 32: At intersection (less than 5 meters) - 33: Near intersection/roundabout - 34: Between intersections (100 meters and more) - 35: Level crossing - 36: Bridge (over a watercourse)

			<ul style="list-style-type: none"> - 37: Other bridge (viaduct) - 38: Tunnel - 39: Under a bridge or viaduct - 40: Shopping center - 99: Other
7	weather_conditions	Weather conditions at the time of the accident	<ul style="list-style-type: none"> - 11: Clear - 12: Overcast (cloudy/dark) - 13: Fog/mist - 14: Rain/drizzle - 15: Shower (heavy rain) - 16: Strong wind (no blowing snow, no rain) - 17: Snow/hail - 18: Blowing snow/snowstorm - 19: Ice - 99: Other
8	num_deaths	Number of deaths resulting from the accident	Numeric
9	num_serious_injuries	Number of serious injuries resulting from the accident	Numeric
10	num_minor_injuries	Number of minor injuries resulting from the accident	Numeric
11	total_victims	Total number of victims (deaths, serious injuries, minor injuries)	Numeric
12	light_cars_trucks_count	Number of light cars and trucks involved in the accident	Numeric
13	heavy_trucks_count	Number of heavy trucks involved in the accident	Numeric
14	bicycle_count	Number of bicycles involved in the accident	Numeric
15	motorcycle_count	Number of motorcycles involved in the accident	Numeric
16	emergency_vehicle_count	Number of emergency vehicles involved in the accident	Numeric
17	unspecified_vehicle_count	Number of vehicles of unspecified type involved in the accident	Numeric
18	pedestrian_deaths	Number of pedestrian deaths resulting from the accident	
19	pedestrian_injuries	Number of pedestrian injuries resulting from the accident	Numeric
20	total_pedestrian_victims	Total number of pedestrian victims (deaths and injuries)	Numeric
21	motorcycle_deaths	Number of motorcycle deaths resulting from the accident	Numeric
22	motorcycle_injuries	Number of motorcycle injuries resulting from the accident	Numeric
23	total_motorcycle_victims	Total number of motorcycle victims (deaths and injuries)	Numeric
24	bicycle_deaths	Number of bicycle deaths resulting from the accident	Numeric
25	bicycle_injuries	Number of bicycle injuries resulting from the accident	Numeric

26	total_bicycle_victims	Total number of bicycle victims (deaths and injuries)	Numeric
27	authorized_speed	Authorized speed at the location of the accident	Float
28	x_coordinate	X coordinate (geographical coordinate) of the accident location	Float
29	y_coordinate	Y coordinate (geographical coordinate) of the accident location	Float
30	hour	Hour when the accident occurred	Numeric
31	crash_severity	Severity of the accident	<ul style="list-style-type: none"> - 0: Damage below reporting threshold - 1: Property damage only - 2: Minor - 3: Serious - 4: Fatal