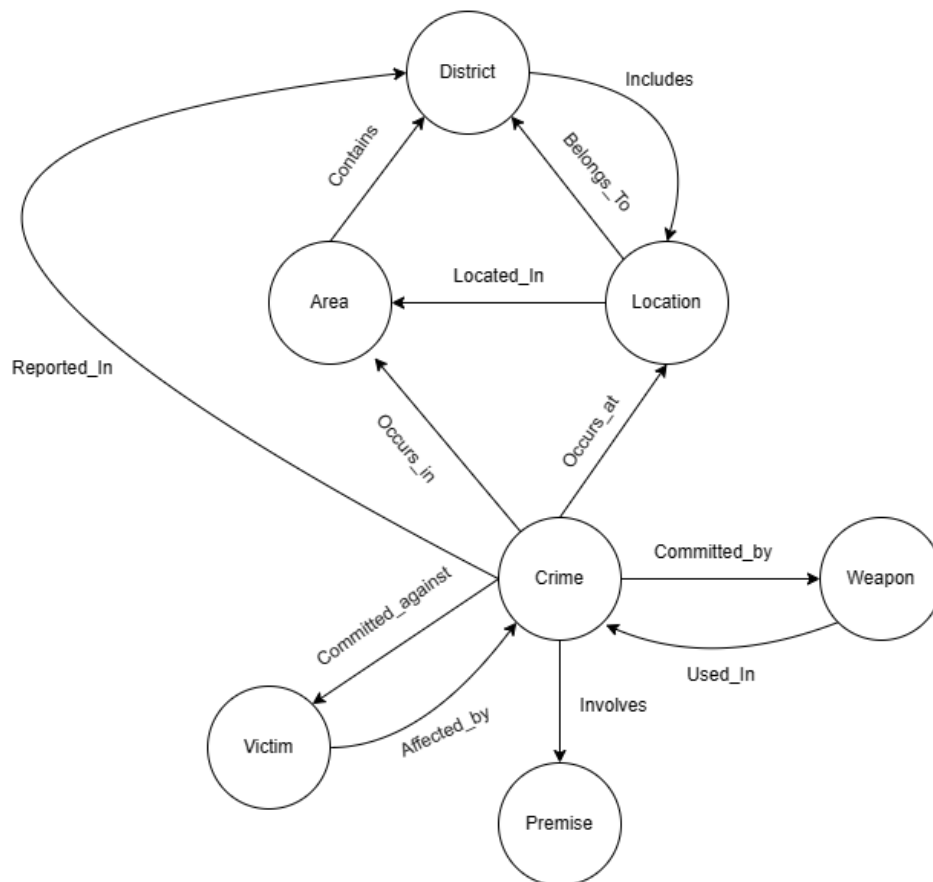# Deliverable 2 – Data Model and Data Population

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Graph Property Model:

Scripts:

```
LOAD CSV WITH HEADERS FROM 'file:///Crime_Data_from_2020_to_Present.csv' AS row
WITH row
WHERE row.`Crm Cd` IS NOT NULL
MERGE (c:Crime {crime_id: row.`Crm Cd`, crime_type: row.`Crm Cd Desc`})
MERGE (p:Premise {premise_id: row.`Premis Cd`, premise_type: row.`Premis Desc`})
WITH row
WHERE row.`Weapon Used Cd` IS NOT NULL
MERGE (w:Weapon {weapon_id: row.`Weapon Used Cd`, weapon_type: row.`Weapon Desc`})
MERGE (v:Victim {victim_id: row.`DR_NO`, age: row.`Vict Age`, sex: row.`Vict Sex`, descent:
row.`Vict Descent`})
```

```
MERGE (l:Location {street: row.`LOCATION`, latitude: row.LAT, longitude: row.LON })
MERGE (d:District {district_id: row.`Rpt Dist No`})
MERGE (a:Area {area_id: row.AREA, area_name: row.`AREA NAME`})

MERGE (c)-[:Occurs_in]->(a)
MERGE (c)-[:Occurs_at]->(l)
MERGE (l)-[:Located_In]->(a)
MERGE (l)-[:Belongs_To]->(d)
MERGE (d)-[:Includes]->(l)
MERGE (a)-[:Contains]->(d)
MERGE (c)-[:Reported_in]->(d)
MERGE (v)-[:Affected_By]->(c)
MERGE (c)-[:Committed_Against]->(v)
MERGE (w)-[:Used_In]->(c)
MERGE (c)-[:Committed_By]->(w)
MERGE (c)-[:Involves]->(p)
```

Data File:

We imported our data from Kaggle's dataset of Los Angeles Crime Data. After much consideration, we came to conclusion that it was the dataset that was suitable after we dropped the idea of Neo4j's graph database on Manchester's Crime Data which is far more comprehensive and optimized as compared to our current data and data model which is insufficient to cover all the aspects. The idea for Neo4j's available graph was dropped since it could not be improved more in terms of graph property model thus our novel effort would have lacked.

Source: [Los Angeles Crime Data 2020-2023 | Kaggle](#)