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Teaching Case
SQL as a Tool for Civic Crime Analysis

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ABSTRACT

This case study engages students in the practice of civic data analysis by applying SQL to the Los Angeles Police Department's open crime datasets, covering the period from 2010 to the present. Participants step into the role of city analysts responsible for examining crime distribution, temporal rhythms, enforcement outcomes, and neighborhood variations. Through structured exercises, learners gain hands-on experience with SQL operations, including table creation, data cleaning, aggregation, and spatial joins. The project emphasizes how database queries can reveal actionable insights for policy discussions on public safety, community partnerships, and policing strategies. In doing so, students strengthen both their technical fluency in SQL and their ability to interpret real-world public data in a critical, applied context.

Keywords: Relational database, Structured query language (SQL), Temporal analysis, Policing strategy, Crime patterns

1. INTRODUCTION

Los Angeles, the largest city on the West Coast, faces a complex landscape of public safety issues ranging from neighborhood-level property crimes to metropolitan concerns about violent offenses. To improve transparency and strengthen public trust, the Los Angeles Police Department (LAPD) has released extensive crime records through the city's Open Data Portal (City of Los Angeles, n.d.-a, n.d.-b). This case puts students in a consulting role, where public data serves as a foundation for supporting safety initiatives and informing decision-making. The client, SafeLA, is a nonprofit organization that collaborates with local neighborhood councils, advocacy groups, and municipal stakeholders to develop data-driven interventions that enhance community well-being.

Intended for students in data science, public policy, and urban analytics, the case emphasizes both technical skill-building and applied problem-solving. The learning objectives are to help students transform raw civic records into meaningful insights through SQL queries and to strengthen their ability to manage core database tasks such as importing, merging, cleaning, and analyzing large datasets. At the same time, the case encourages reflection on how technical findings connect to broader issues of equity, resource allocation, and ethical responsibility. This case study is designed to be flexible for different teaching levels. While the full set of exercises ensures rigor, instructors at the undergraduate level may choose to assign only a subset of questions depending on students' prior knowledge.

Working with authentic, large-scale datasets provides students with an opportunity to practice the end-to-end data pipeline, including importing and cleaning records, generating descriptive and temporal statistics, and conducting spatial joins to identify geographic disparities. The case highlights how structured

SQL analysis can guide strategic deployment of resources, inform citywide policy evaluations, and empower neighborhood-level safety partnerships. Also, this case study positions SQL as a core analytical tool for managing and interpreting complex, real-world datasets. Students will apply SQL not only for data preparation but also for analysis, using filtering, grouping, joining, and time-series queries to uncover insights that inform public safety decisions.

Recent labor market studies continue to highlight SQL as one of the most in-demand skills across multiple disciplines. The 2025 Stack Overflow Developer Survey reported that 58.6% of developers used SQL in the past year, underscoring its continued relevance across technical roles (Stack Overflow, 2025). LinkedIn Learning (2024) identified SQL as one of the top five most sought-after technical skills worldwide, while the World Economic Forum (2023) emphasized its importance across various business functions, including marketing, operations, and analytics. In more specialized contexts, SQL was present in over half of all data analyst job postings and nearly 80% of data engineering roles (365 Data Science, 2025). Recent research confirms that SQL continues to be a core component of university curricula, with studies showing that it is considered an obligatory skill in business and data analytics courses and that it remains central in higher education through innovative teaching approaches, including the use of real datasets (Del-Pozo-Arcos & Balderas, 2024; Tuparov, 2022). By working directly with LAPD data, students not only gain technical fluency in SQL but also understand why these skills are essential for careers in fields ranging from marketing and operations to public policy and civic technology.

2. CONTEXT OVERVIEW

Home to nearly 4 million residents, Los Angeles is one of the most diverse and complex urban centers in the United States, facing persistent challenges in public safety alongside its cultural and economic prominence (Bloch & Phillips, 2022). Each year, the city records hundreds of thousands of crime incidents, ranging from property theft and identity fraud to violent assaults and homicides. In response to growing calls for accountability and transparency, the Los Angeles Police Department (LAPD) publishes detailed incident-level records through the city's Open Data Portal (City of Los Angeles, n.d.-a, n.d.-b). These datasets, covering crimes from 2010 to the present, provide rich information on when and where crimes occurred, the type of offense, victim characteristics, and case outcomes such as arrests. For students of business analytics and data science, this resource presents a genuine opportunity to engage with large-scale civic data and generate insights with real-world impact.

In this case, students will assume the role of a consulting analyst for SafeLA, a nonprofit organization that partners with neighborhood councils and city policymakers to design data-informed safety strategies. SafeLA depends on your SQL-based analysis to:

- Merge datasets from different time periods into a single, unified resource for long-term analysis;
- Clean and prepare the data by handling missing or inconsistent values, checking for invalid records, and creating new fields that enable deeper insights;
- Summarize key statistics to determine which types of crimes are most prevalent across neighborhoods, time periods, and demographic groups;
- Evaluate enforcement outcomes, including which crimes are most likely to result in arrests and how arrest rates vary across areas and over time;
- Identify geographic disparities, such as districts with unusually high levels of domestic incidents or low arrest activity;
- Analyze temporal trends to determine how crime patterns shift by season, day of the week, or hour of the day;
- Recommend strategies for targeted patrol deployment and community interventions based on when and where crime tends to concentrate.

As a consultant, students' task is to query the LAPD crime dataset using SQL, the industry-standard language for managing relational databases. By practicing filtering, grouping, joining, and aggregating operations, students will not only refine their technical skills but also learn how to translate raw civic data into actionable insights. This case illustrates how analytics can inform decision-making at both the policy and operational levels, highlighting the crucial role of data in enhancing safety and resilience across Los Angeles neighborhoods.

3. CASE DATASET DESCRIPTION

3.1 Dataset Profile

This case draws on the Los Angeles Police Department's (LAPD) publicly released crime data, available through the City of Los Angeles Open Data Portal. The dataset covers reported crime incidents from 2010 to the present and is updated regularly to reflect newly processed records. Each incident is recorded in accordance with the LAPD's standardized reporting practices, which capture detailed information on time and location, type of crime, case status, victim characteristics, and enforcement outcomes.

Each row in the dataset represents a single reported incident, allowing for the analysis of crime patterns at the citywide, divisional, or neighborhood level. The dataset is especially valuable for analytics education and civic research due to its breadth, detail, and accessibility. As of its most recent version, it includes millions of rows spanning more than a decade of crime records. Each row contains structured information across 28 columns, such as:

- Date and time the crime was reported and when it occurred
- Crime category and description based on LAPD crime codes
- Geographic details, including LAPD reporting district and area name
- Victim attributes such as age, sex, and descent
- Premises description and weapon details (if applicable)
- Status of the case, including whether an arrest was made or if the investigation is continuing
- Geospatial coordinates (latitude and longitude [lat and lon] at the block level, partially masked for privacy)

Because the data is de-identified and openly available, students can work directly with realistic civic records to:

- Merge data from different time spans into a single analysis-ready table
- Clean and prepare records to handle missing or inconsistent values
- Write queries to examine trends across time, geography, and demographics
- Produce insights relevant to resource allocation, enforcement strategy, and community engagement
- Develop practical SQL competency while working with large-scale, real-world data

3.2 Metadata

The glossary (Table 1) below summarizes key fields included in the LAPD dataset and relevant to the case analysis:

Field	Description	Data Type
DR_NO	Unique Division of Records number that identifies each crime incident: Official file number made up of a 2-digit year, area ID, and 5 additional digits.	BIGINT
Date Rptd	Date when the crime was reported to the LAPD.	DATETIME
Date Occ	Date when the crime occurred. May differ from the reported date.	DATETIME
Time Occ	Time of day (in 24-hour format, e.g., 1345 = 1:45 PM) when the crime occurred.	INTEGER
Area	Numeric LAPD area code. The LAPD has 21 Community Police Stations referred to as Geographic Areas within the department. These Geographic Areas are sequentially numbered from 1-21.	TINYINT

Area Name	Name of the LAPD area/division. The 21 Geographic Areas or Patrol Divisions are also given a name designation that references a landmark or the surrounding community for which they are responsible. For example, 77th Street Division is located at the intersection of South Broadway and 77th Street, serving neighborhoods in South Los Angeles.	VARCHAR(50)
Rpt Dist No	LAPD reporting district number. A four-digit code that represents a sub-area within a Geographic Area. All crime records reference the "RD" in which it occurred for statistical comparisons. Find LAPD Reporting Districts on the LA City GeoHub at https://geohub.lacity.org/signin (Los Angeles GeoHub, n.d.).	INT
Part 1 - 2	Crime classification according to the FBI's Part I/II categories (Offense Definitions, 2019).	TINYINT
Crm Cd	Indicates the crime committed (Same as Crime Code 1).	INT
Crm Cd Desc	Description of the crime code.	VARCHAR(100)
Mocodes	Modus Operandi: Activities associated with the suspect in the commission of the crime.	VARCHAR(50)
Vict Age	Age of the victim.	SMALLINT
Vict Sex	Sex of the victim (M, F, X, or unknown).	VARCHAR(5)
Vict Descent	Victim descent code (ethnicity category used by LAPD). Descent Code: A - Other Asian B - Black C - Chinese D - Cambodian F - Filipino G - Guamanian H - Hispanic/Latin/Mexican I - American Indian/Alaskan Native J - Japanese K - Korean L - Laotian O - Other P - Pacific Islander S - Samoan U - Hawaiian V - Vietnamese W - White X - Unknown Z - Asian Indian.	VARCHAR(5)
Premis Cd	The type of structure, vehicle, or location where the crime took place.	INT
Premis Desc	Description of the type of premises (e.g., residence, street, business).	VARCHAR(100)
Weapon Used Cd	Numeric code for weapon used, if any.	INT
Weapon Desc	Description of the weapon.	VARCHAR(100)
Status	Short status code for case outcome (e.g., IC = Investigation Continuing).	VARCHAR(10)
Status Desc	Description of the case status.	VARCHAR(100)
Crm Cd 1-4	Indicates the crime committed. Crime Code 1 is the primary and most serious one. Crime Codes 2, 3, and 4 are, respectively, less serious offenses. Lower crime class numbers are more serious.	INT
Location	Partially masked block-level address where the crime occurred.	VARCHAR(200)
Cross Street	Nearest cross street, if available.	VARCHAR(200)
LAT	Latitude of the crime location (masked to block level).	DECIMAL(10,6)
LON	Longitude of the crime location (masked to block level).	DECIMAL(10,6)

Table 1. Metadata and Descriptions

4. CASE ANALYSIS EXERCISES

In this part of the case, students will use SQL to investigate crime records released by the Los Angeles Police Department. As analysts for SafeLA, a nonprofit organization dedicated to supporting community safety through data-driven strategies, students will generate insights that highlight patterns in crime, enforcement, and neighborhood risk. The questions are grouped into thematic sections that mirror the stages of a real-world analytics workflow, moving from data preparation to descriptive summaries, spatial analysis, and temporal exploration.

4.1 Data Preparation and Organization

Before any meaningful analysis can begin, it is essential to obtain the dataset from its original source, import it into a relational database, and prepare it for structured queries. For this case, students will work with crime data from the Los Angeles Police Department, available on the City of Los Angeles Open Data Portal. The dataset is available in CSV format and includes records from 2010 to the present, divided into two eras. Students can download both datasets by clicking the link below:

- Crime Data from 2010 to 2019 at https://data.lacity.org/Public-Safety/Crime-Data-from-2010-to-2019/63jg-8b9z/about_data
- Crime Data from 2020 to Present at https://catalog.data.gov/dataset/crime-data-from-2020-to-present

Both files should be downloaded to your computer and imported into your chosen relational database management system (RDBMS), such as MySQL, PostgreSQL, SQL Server, Oracle Database, or SQLite. These datasets share the same schema, with fields such as incident number, report date, occurrence date, crime type, victim demographics, location (at the block level), and coordinates. However, because they are published in separate files, any analysis of long-term trends, for example, comparing pre- and post-pandemic crime patterns, requires combining them into one dataset. Once imported, students will combine the two datasets into a unified table that enables seamless analysis across the entire time span. Before beginning any analysis, the data must be carefully cleaned and organized. This includes checking for missing values in critical fields, correcting or removing invalid entries such as placeholder coordinates or implausible ages, and standardizing formats for dates and times to ensure accurate analysis of temporal patterns.

Students may also enhance the dataset by creating derived columns that capture useful attributes such as year, month, and hour of occurrence, or by joining external geographic files to enable neighborhood-level analysis. By following these steps, students will experience the end-to-end data pipeline, from acquiring authentic civic records to cleaning and preparing them, and then constructing an analysis-ready dataset. These tasks mirror real-world challenges that analysts face in government, nonprofit, and business environments, where data rarely arrives in a perfectly structured format. In the process, students will be answering the following questions.

4.1.1 Question 1a: If students have not already downloaded the two datasets mentioned above, please do so. After that, please open your relational database management system, such as MySQL, and create a database called "la_crime." Then, make it the active database for this project.

4.1.2 Question 1b: Inside the la_crime database, create two tables named crime_2010_2019 and crime_2020_present. Both tables must have the same structure and include the following 28 column names (as given in each dataset) with the respective metadata: dr_no BIGINT, date_rptd DATETIME, date_occ DATETIME, time_occ INT, area INT, area_name VARCHAR(50), rpt_dist_no INT, part INT, crm_cd INT, crm_cd_desc VARCHAR(100), mocodes VARCHAR(100), vict_age INT, vict_sex VARCHAR(5), vict_descent VARCHAR(5), premis_cd INT, premis_desc VARCHAR(100), weapon_used_cd INT, weapon_desc VARCHAR(100), status VARCHAR(10), status_desc VARCHAR(100), crm_cd_1 INT, crm_cd_2 INT, crm_cd_3 INT, crm_cd_4 INT, location VARCHAR(200), cross_street VARCHAR(200), lat DECIMAL(10,6), lon DECIMAL(10,6).

4.1.3 Question 1c: Import the two CSV files (i.e., two datasets) from your computer into the tables created above. Use MySQL Workbench's Table Data Import Wizard (recommended) or the LOAD DATA command. Crime_Data_from_2010_to_2019.csv should be imported into the "crime_2010_2019" table we created above, while Crime_Data_from_2020_to_Present.csv should be imported into the "crime_2020_present" table.

4.1.4 Question 2a: Create a new table called "crime_all" inside the la_crime database. This table should contain all records from both crime_2010-2019 and crime_2020-present. Merge these two tables to "crime_all."

4.1.5 Question 2b: Write SQL queries to check the total number of rows in table "crime_2010_2019" and "crime_2020_present," and the merged table "crime_all," then preview 5 rows from crime_all to ensure the data loaded correctly, and finally perform at least one additional sanity check, such as verifying that dr_no values are not duplicated or confirming that the occurrence dates span continuously across the 2019–2020 boundary.

4.1.6 Question 3a: Are there any missing or null values in critical columns such as crm_cd_desc (crime type), date_occ (occurrence date), or location (address block)? Write SQL queries to count these missing values.

4.1.7 Question 3b: What percentage of records are missing usable location coordinates (lat and lon)? Treat 0,0 values as missing.

4.1.8 Question 3c: Create new columns year_occ, month_occ, and hour_occ to store the year, month, and hour of each crime from the occurrence date. Populate these columns.

4.1.9 Question 3d: Download the Los Angeles Neighborhood Boundaries shapefile from the City of Los Angeles GeoHub at https://geohub.lacity.org/datasets/la-times-neighborhood-boundaries/explore. Download the file and import it into your database. Create point geometries from the crime coordinates and join the two datasets to create a new table called Combined_LA_Visual_File, which assigns each crime to a corresponding neighborhood.

4.1.10 Question 4: Add a new column called "reporting_delay_days." This column should contain the number of days between when the crime occurred (date_occ) and when it was reported (date_rptd). Once we create the column, we need to calculate the average reporting delay across all records.

4.2 Descriptive Summaries

Descriptive analysis provides a first look at how the data is organized and what patterns begin to emerge. By examining overall counts, distributions, and groupings, students can highlight which crimes are most frequent, where incidents tend to cluster, and how enforcement outcomes differ across categories. Within the context of public safety, such summaries can reveal areas of concern for neighborhoods, shifts in policing effectiveness, or disproportionalities that deserve closer attention. In this section, students will practice writing SQL queries that calculate totals, percentages, and rankings, laying the foundation for a deeper exploration of temporal and geographic patterns. Note that this case uses MySQL as the database management system, although the questions can be answered with any relational database management system. Through these exercises, students will answer the following questions.

4.2.1 Question 5: What were the five most common types of crime in the last five years? Knowing what crimes occur most frequently helps prioritize community safety resources and awareness campaigns.

4.2.2 Question 6: What are the arrest rates per crime type? Some crimes may be harder to prosecute than others. This analysis highlights where enforcement succeeds or struggles.

4.2.3 Question 7: Compare arrest rates across violent vs. non-violent crimes. What insights emerge? Violent crimes (e.g., homicide, assault, robbery) can be grouped and compared with property/non-violent crimes.

4.2.4 Question 8: Determine whether law enforcement is more effective in one crime category than the other. Effectiveness can be assessed by comparing arrest rates between violent and non-violent categories.

4.2.5 Question 9: Are certain types of crimes overrepresented in specific LAPD areas (districts)? This helps identify local patterns and potential community-specific risks.

4.2.6 Question 10: Identify crime "hot spots" by LAPD area. This can help focus public safety initiatives.

4.2.7 Question 11: Which crime types are most likely to be domestic-related? Domestic crimes often require special interventions.

4.2.8 Question 12: What are the most frequent location descriptions associated with crimes? Understanding where crimes occur informs strategies such as better lighting, zoning, or surveillance.

4.2.9 Question 13: What is the overall proportion of crimes resulting in arrests? This provides a high-level measure of enforcement efficiency.

4.2.10 Question 14: What percentage of crimes resulted in arrests each year? Is this number increasing or decreasing? Trends in arrest rates over time help evaluate enforcement and public trust.

4.3 Geographic and Location Analysis

Crime does not occur uniformly across Los Angeles, and its distribution often reflects neighborhood conditions, policing boundaries, and community dynamics. Exploring the geographic dimensions of the dataset helps uncover where incidents are most concentrated and how enforcement patterns differ across divisions. In this section, students will carry out spatial comparisons and aggregations using attributes such as LAPD area names, reporting districts, and location descriptions. Through these exercises, students will address the following questions.

4.3.1 Question 15: Which LAPD areas have the highest total number of crimes? This helps determine where the most urgent safety concerns may lie.

4.3.2 Question 16: How does crime vary by LAPD reporting district? Knowing how crime is distributed across smaller operational zones supports more efficient patrol assignments.

4.3.3 Question 17: Which LAPD areas have the highest concentration of domestic crimes? Spotting high-risk areas for domestic violence allows stakeholders to target support services more effectively.

4.3.4 Question 18: Are there location types (e.g., streets, residences, businesses) where arrests are more or less likely to occur? Certain public spaces may be more prone to enforcement, which can inform debates on spatial justice.

4.3.5 Question 19: Which LAPD areas have the highest and lowest arrest rates? Uncovering geographic disparities in enforcement success can reveal differences in policing strategies or challenges.

4.3.6 Question 20: If you had to design a new beat policing strategy, what areas or times would you prioritize for attention? Use insights from your analysis to make data-driven recommendations for proactive policing.

4.4 Temporal and Seasonal Patterns
Crime in Los Angeles often follows recognizable patterns rather than occurring randomly. Incidents may cluster by hour of the day, vary across weekdays and weekends, or fluctuate with the seasons. In this section, students will explore these temporal dynamics through time-series queries that reveal recurring patterns, seasonal fluctuations, and enforcement challenges linked to timing.

4.4.1 Question 21: Has the number of crimes increased or decreased annually since 2015? Track long-term trends to understand whether conditions are improving citywide.

4.4.2 Question 22: There is a saying that "Theft Soars in Summer, Burglaries Spike in Winter." Is that true in this case? Examine seasonal patterns by comparing theft and burglary counts across different months.

4.4.3 Question 23: At what times of the day do most crime incidents happen? Use this insight to improve patrols or alert systems.

4.4.4 Question 24: How do arrest rates change by time of day or year? Determine whether enforcement is time-sensitive and if operational hours affect effectiveness.

4.4.5 Question 25: Are certain days (e.g., weekends, holidays) associated with higher crime levels? Analyze patterns associated with days of the week.

4.4.6 Question 26: Are certain crime types more common at night compared to the day? Define day as 06:00-17:59 and night as 18:00-05:59.

4.4.7 Question 27: Are certain crime types related to certain months? For example, does a particular crime occur more in February than in December?

4.4.8 Question 28: Find the crime rate across each year. Give the total crime count by crime type across each year. Has there been a change in the top 3 crime types in the last five years?

4.4.9 Question 29: Did overall crime levels change significantly during the COVID-19 pandemic (2020-2021) compared to the five years before (2015-2019)? This comparison can reveal how crime patterns shifted under lockdown conditions.

4.4.10 Question 30: Which types of crime increased or decreased the most during COVID (2020-2021) compared to pre-COVID (2018-2019)? This helps identify categories most affected by the pandemic.

4.5 Reflection and Application
Analyzing crime data is more than a technical exercise; it is an opportunity to translate evidence into insights that matter for communities. Numbers alone do not capture the human stakes involved, but they can guide policies, shape public trust, and influence how resources are deployed across neighborhoods. For analysts working in civic contexts, the responsibility extends beyond querying databases: it encompasses interpreting results carefully, communicating them clearly, and recognizing their ethical and social implications.

Based on their exploration of the Los Angeles crime dataset, students should consider what recommendations they would make to SafeLA to enhance public safety or reduce harm. Findings on seasonal patterns, geographic hotspots, or arrest rates might inform strategies such as targeted patrols, improved lighting, or neighborhood-level outreach. These insights could also support resource allocation, foster community partnerships, or inform policy discussions at the city level. At the same time, students should reflect on the limitations of their analysis. Are there biases in how crime is reported, recorded, or enforced that might distort the patterns they observed? How should SafeLA and its partners address these uncertainties when acting on such recommendations? Students are also encouraged to consider broader issues, such as what additional data sources (for example, crime data from other cities) might provide useful comparisons, whether reporting or enforcement practices introduce bias into the dataset, and whether AI could or should be applied to identify trends more quickly. Finally, students are encouraged to consider the ethical implications of data-driven interventions: how can safety be balanced with fairness, how can existing inequalities be mitigated or reduced, and how can the voices of affected communities be incorporated into the conversation?

This reflection connects technical findings with practical action, demonstrating how SQL-driven analysis can inform not only operational strategies but also broader questions of equity, accountability, and community well-being in Los Angeles.

5. PROJECT EXPECTATIONS

This project is designed as a professional simulation where students act as consultants for SafeLA, a nonprofit working to strengthen neighborhood safety through data-driven approaches. The expectation is that students will deliver both a technical product and a strategic communication piece. Technical outputs must demonstrate precision and reproducibility, while the written component should show the ability to translate database findings into insights for a non-technical audience.

5.1 Deliverables

5.1.1 SQL Portfolio. Students are required to submit a single file (either .sql or notebook format) that demonstrates their technical process from start to finish. The portfolio should:

- Begin with setup steps (database creation, table imports, and any schema adjustments).
- Include the full sequence of queries used to complete the assignment, organized in the same order as the case study sections.
- Provide explanatory notes after key queries, highlighting what the results show rather than just what the code does.
- Follow professional conventions for readability: consistent indentation, use of uppercase keywords, and logical structuring of multi-line queries.

5.1.2 Executive Brief (Two Page). Students will also prepare a two-page document addressed to the SafeLA leadership team. Unlike the technical file, this brief should be written for decision-makers without SQL expertise. The document should:

- Summarize no more than three to four critical insights uncovered in the analysis (e.g., seasonal crime shifts, arrest rate disparities, geographic hotspots).
- Translate those findings into practical recommendations for community safety or resource planning.
- Flag uncertainties or limitations in the dataset that city leaders should keep in mind before acting on the results.
- Present the content in a professional, concise, and visually clear format suitable for policy discussion.

5.2 Submission Instructions

All materials for this analytical assignment should be packaged in a ZIP folder named: Lastname_Firstname_LA_SQLProject.zip. The folder must include:

- The SQL portfolio file.
- The executive brief in .docx or .pdf format.
- Any optional appendices, such as charts or maps generated from the analysis.
- Submissions will be evaluated not only for correctness but also for professionalism, organization, and the ability to connect technical findings to real-world decisions.

6. CONCLUDING INSIGHTS

This case integrates technical practice with applied civic problem-solving by positioning SQL as a tool for understanding complex social challenges. By working directly with Los Angeles crime data, students not only develop a stronger command of database querying but also see how structured analysis can inform questions of safety, equity, and public trust. The project asks students to think beyond the mechanics of SQL code to consider how analytical results can guide neighborhood initiatives, shape city policies, and influence the distribution of limited public resources. In doing so, it highlights the importance of data literacy as both a professional competency and a civic responsibility.

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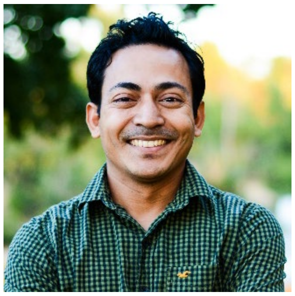

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