

## **PROJECT JOURNAL: X23338466 Anudeep Yarlagadda**

### **Week 1: Project Conceptualization and Dataset Identification**

- **Tasks:** Collaborated on finalizing the project topic and objectives. Searched for relevant datasets on crime, drug overdose, and life expectancy. Evaluated data quality and relevance.
- **Time Spent:** 8 hours
- **Challenges:** Aligning datasets with project objectives. Focused on datasets with sufficient granularity and reliability.

### **Week 2: Data Exploration and Cleaning**

- **Tasks:** Conducted EDA to assess data completeness. Cleaned datasets, including formatting dates.
- **Time Spent:** 13 hours
- **Challenges:** Overlapping data entries in crime reports. Used Python scripts to deduplicate records.

### **Week 3: Coding**

- **Tasks:** contributed initial data exploration, manually going through the datasets to check if they meet criteria. Wrote demo scripts to thoroughly check the datasets.
- **Time Spent:** 16 hours
- **Challenges:** Normalizing data across different scales. Applied statistical techniques to standardize variables.

### **Week 4: Database Design and Querying**

- **Tasks:** Helped design the SQLite database schema. Wrote and optimized SQL queries for data extraction and analysis.
- **Time Spent:** 12 hours
- **Challenges:** Query performance issues with large datasets. Improved efficiency by creating indexes.

### **Week 5: Visualization and Insights Development**

- **Tasks:** Focused on creating visualizations, including time-series plots for overdose trends and bar charts for crime types. Derived insights from data trends.
- **Time Spent:** 17 hours
- **Challenges:** Combining multiple variables in a single visualization. Experimented with advanced Matplotlib and Seaborn features.

### **Week 6: Writing and Interpretation**

- **Tasks:** Worked on the interpretation of findings, linking results to research questions. Co-wrote the discussion and conclusion sections.
- **Time Spent:** 12 hours
- **Challenges:** Synthesizing complex findings into concise narratives. Collaborated closely with the team for consistency.

### **Week 7: Final Edits and Presentation**

- **Tasks:** Conducted final edits of the report and reviewed all deliverables. Designed and rehearsed the presentation with the team. Ensured the reproducibility of visualizations and code.
- **Time Spent:** 10 hours
- **Challenges:** Addressing last-minute feedback. Managed time effectively by prioritizing critical tasks.