***Project Title:***

***Analyzing Cincinnati Traffic Crash Data for Insights and Trends***

***Project Description:***

In this data-driven project, I conducted a comprehensive analysis of Cincinnati's traffic crash data to uncover valuable insights and trends related to road safety, crash causes, demographics, and more. Leveraging my expertise in Python, Excel, and Power BI, I successfully cleaned, explored, and visualized the data, providing a deep understanding of the underlying factors contributing to traffic accidents. This project not only demonstrated my technical skills but also showcased my ability to derive meaningful insights from complex datasets and communicate those insights effectively.

***Data Overview:***

The project revolved around a large dataset containing detailed information about traffic crashes in Cincinnati, including crash date, location, severity, weather conditions, and demographic information of the involved individuals. The data was initially messy and required thorough cleaning to ensure accurate analysis.

***Key Accomplishments:***

***1. Data Cleaning and Preprocessing:***

I employed my Python skills to clean and preprocess the dataset, handling missing values, inconsistent formats, and outliers. This meticulous process ensured the accuracy and reliability of subsequent analyses.

***2. Exploratory Data Analysis (EDA):***

Using Python's Pandas library, I conducted insightful exploratory data analysis to identify patterns, trends, and relationships within the data. This phase allowed me to gain a deep understanding of the factors contributing to accidents and their severity.

***3. Visualizations with Power BI:***

Leveraging Power BI, I transformed my insights into compelling visualizations that effectively communicated the patterns and trends to a broader audience. The interactive dashboards and charts provided an intuitive way to explore the data's nuances.

***4. Advanced Excel Analysis:***

I further enhanced the analysis by utilizing Excel's powerful capabilities, such as pivot tables and advanced charting. These techniques allowed me to create informative summaries and visuals that highlighted the most critical aspects of the data.

***5. Insights Generation:***

**Through rigorous analysis, I generated actionable insights, including:**

* Total crashes in each city by month and year, highlighting periods of higher accident rates.
* Identification of common causes of crashes, aiding in understanding contributing factors.
* Analysis of crash severity, injuries, and types of persons involved, providing a comprehensive safety overview.
* Demographic breakdowns of crashes, including age and gender distributions.
* Focused analysis on the age groups, revealing trends and risks associated with these groups.

***Conclusion:***

My work on this project showcases not only my technical prowess in Python, Excel, and Power BI but also my ability to drive valuable insights from complex datasets. By cleaning, analyzing, and visualizing the Cincinnati traffic crash data, I have demonstrated my skills in data analysis and visualization, while providing crucial insights that can inform road safety measures and policies. This project reflects my dedication to data-driven decision-making and my proficiency in transforming raw data into actionable knowledge.

Are you ready to gain a new level of insight into road safety and make informed decisions to improve community well-being? Let's connect to explore how these data-driven revelations can shape traffic management strategies, enhance road safety measures, and contribute to a safer environment for all.

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