Fitness Tracker Data Analysis

Overview
This project analyzes user activity data from a fitness tracker, focusing on steps, active minutes, and calories burned. The goal was to uncover behavioral patterns and generate health-related insights.

Data Preparation
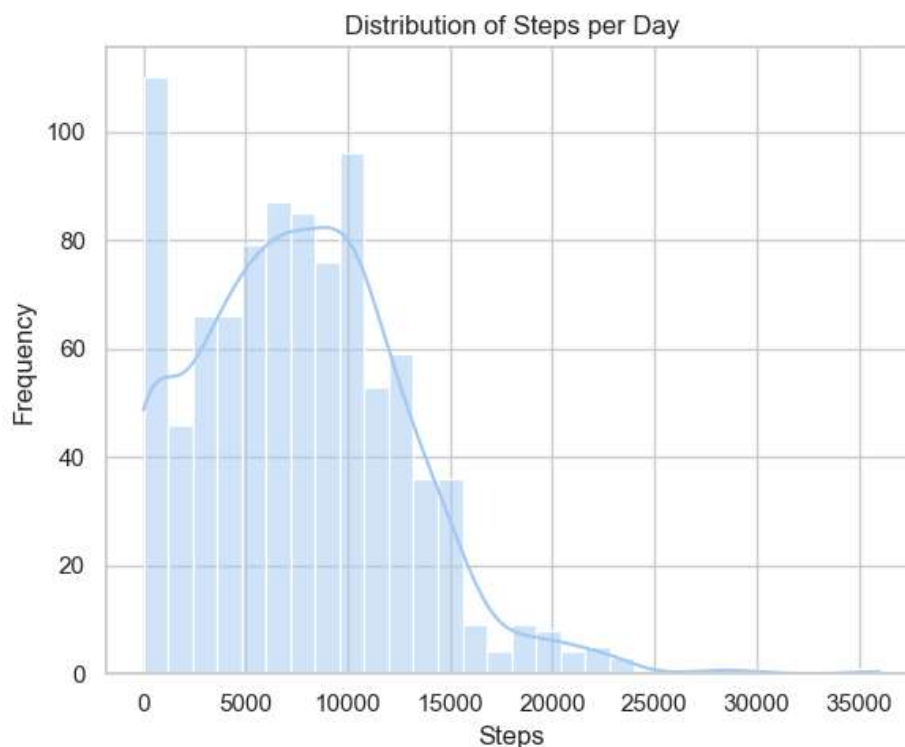The dataset was cleaned and formatted. The date column was converted for time series analysis. Missing or inconsistent values were handled.
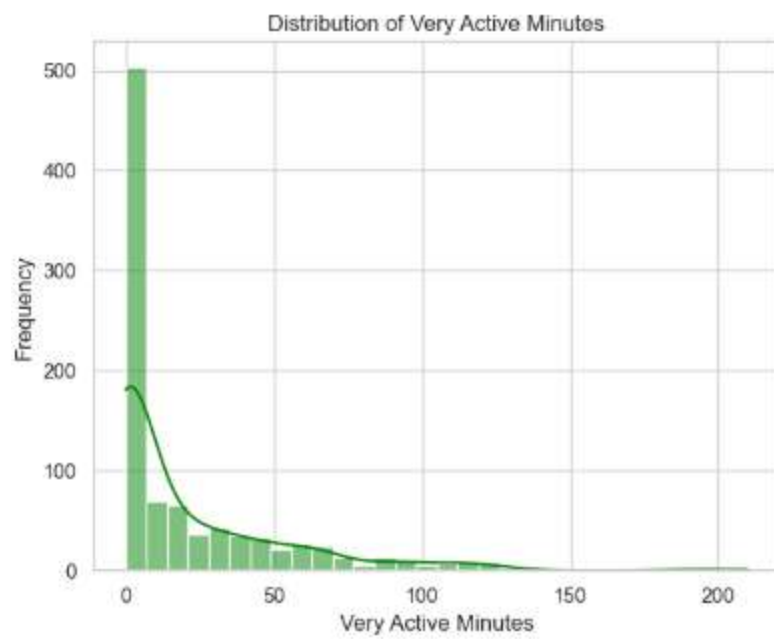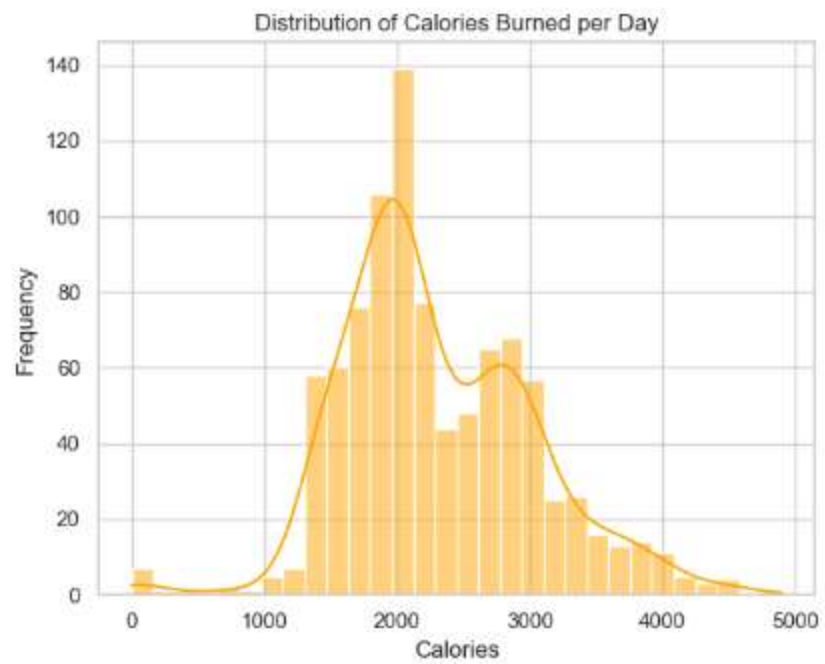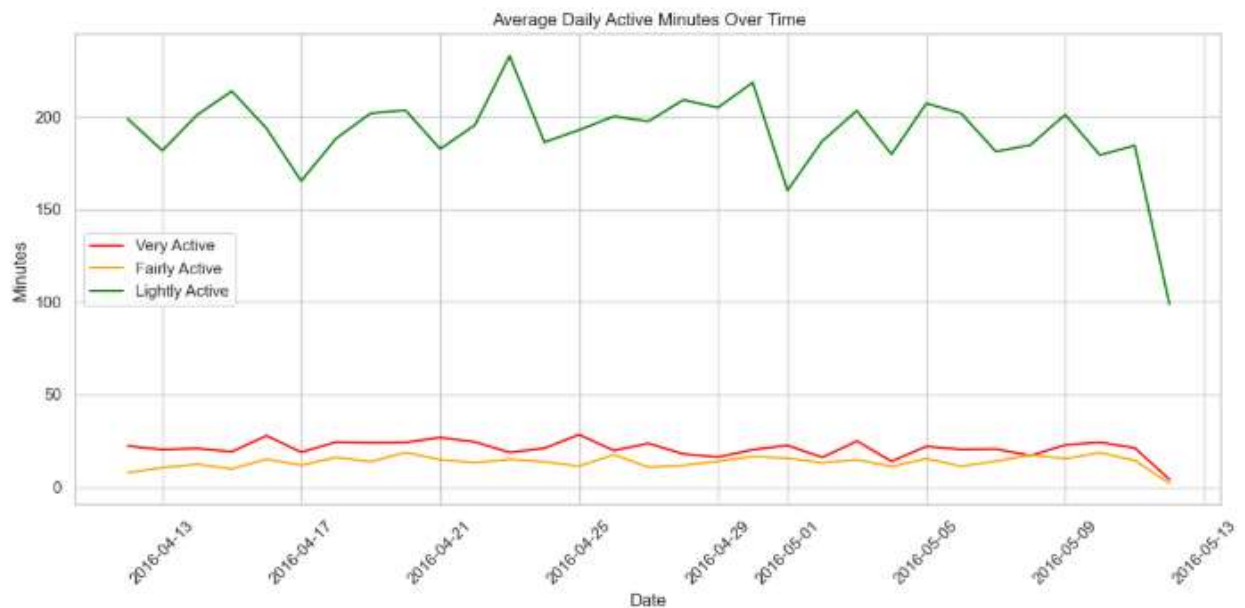
Exploratory Analysis
Used pandas, matplotlib, and seaborn to explore distributions, outliers, and correlations. Identified trends in daily steps and visualized how calories burned relate to activity levels.

Findings
- Strong correlation between steps and calories.
- Users tend to be more active during weekdays.
- Sedentary vs. active users show clear differences in behavior.

Distribution of Steps per Day

Distribution of Calories Burned per Day

Distribution of Very Active Minutes

Average Daily Active Minutes Over Time

Next Steps

To extend the project, I would include user demographic data or apply clustering for deeper segmentation. The insights could be used for targeted fitness recommendations.

Tools Used

Python, pandas, matplotlib, seaborn, Jupyter Notebook.