

# GETABE SALES



## Vegetable Sales Analysis and Visualization

Welcome to this comprehensive analysis of global vegetable sales data. This project utilizes Python programming and data science tools to extract meaningful insights from sales records across different regions and countries.

Through careful examination of units sold, revenue patterns, and regional performance, we'll uncover trends that can help optimize business strategies and improve profitability in the vegetable market.



# Project Overview



## Data Source

Comprehensive dataset from GitHub containing vegetable sales records organized by country and region



## Analysis Focus

Units sold, revenue by region, and product performance across global markets



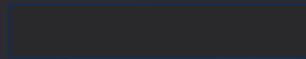
## Tools Used

Python libraries including Pandas, Matplotlib, and Seaborn for data manipulation and visualization



## Business Goal

Optimize strategies, forecast trends, and improve profitability through data-driven insights



7													
8	Regions	11400	197%	11.09%	2.060	12.75%	12.65%	2.07%	12.45%	1.80%	12.55%	12.65%	12.65%
10	Taginds	1,970	223%	1.16%	1.400	1.38%	2.506	4.55%	4.000	3.92%	1.39%	1.09%	9,000
12	Terrians	1,57%	121%	4.49%	2.700	5.09%	1.000	5.53%	4.840	9.07%	6.708	8.55%	4,300
13	Sale riats	11500	164%	33.06	1.750	0.09%	5.156	3.17%	6.55%	1.55%	1.19%	1.69%	1,549%
11	Reccudes	1579%	225%	1.25%	1.97%	5.99%	1.600	5.99%	3.59%	2.752	2.17%	0.59%	1,650
18	Devplags	1.56%	2.570	1.75%	1.950	2.540	2,79%	4.56%	2.800	1,925	2.47%	2.38%	1,600

# Dataset Details

## Product Information

Detailed vegetable names and categories allowing for product-specific analysis

## Sales Metrics

Comprehensive figures including units sold, total revenue, and profit margins

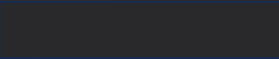
## Geographic Data

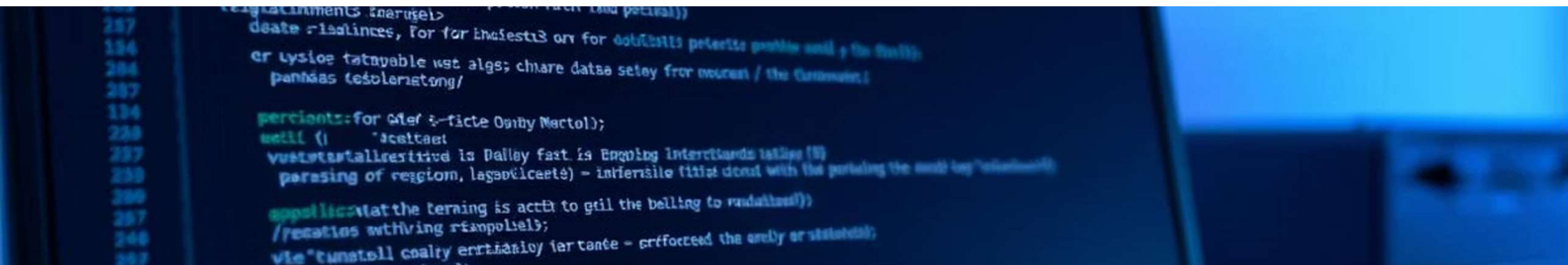
Country and region information enabling geographical performance comparison

## Temporal Data

Order and shipping dates for time-series analysis and seasonal pattern identification

The dataset "1000 Sales Records" was sourced from GitHub at the URL: <https://github.com/HariVM/Analytics/blob/master/1000%20Sales%20Records.csv>. This rich dataset provides a solid foundation for exploring how different vegetables perform across various markets and identifying key business opportunities.





# Exploratory Data Analysis Process

## Data Loading

Imported the dataset using Pandas' `read_csv()` function to create a structured DataFrame for analysis

## Initial Inspection

Examined data structure with `head()`, `describe()`, and `info()` methods to understand column types and statistical summaries

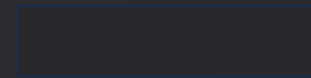
## Data Cleaning

Removed missing values with `dropna()` to ensure data integrity and prevent analysis errors

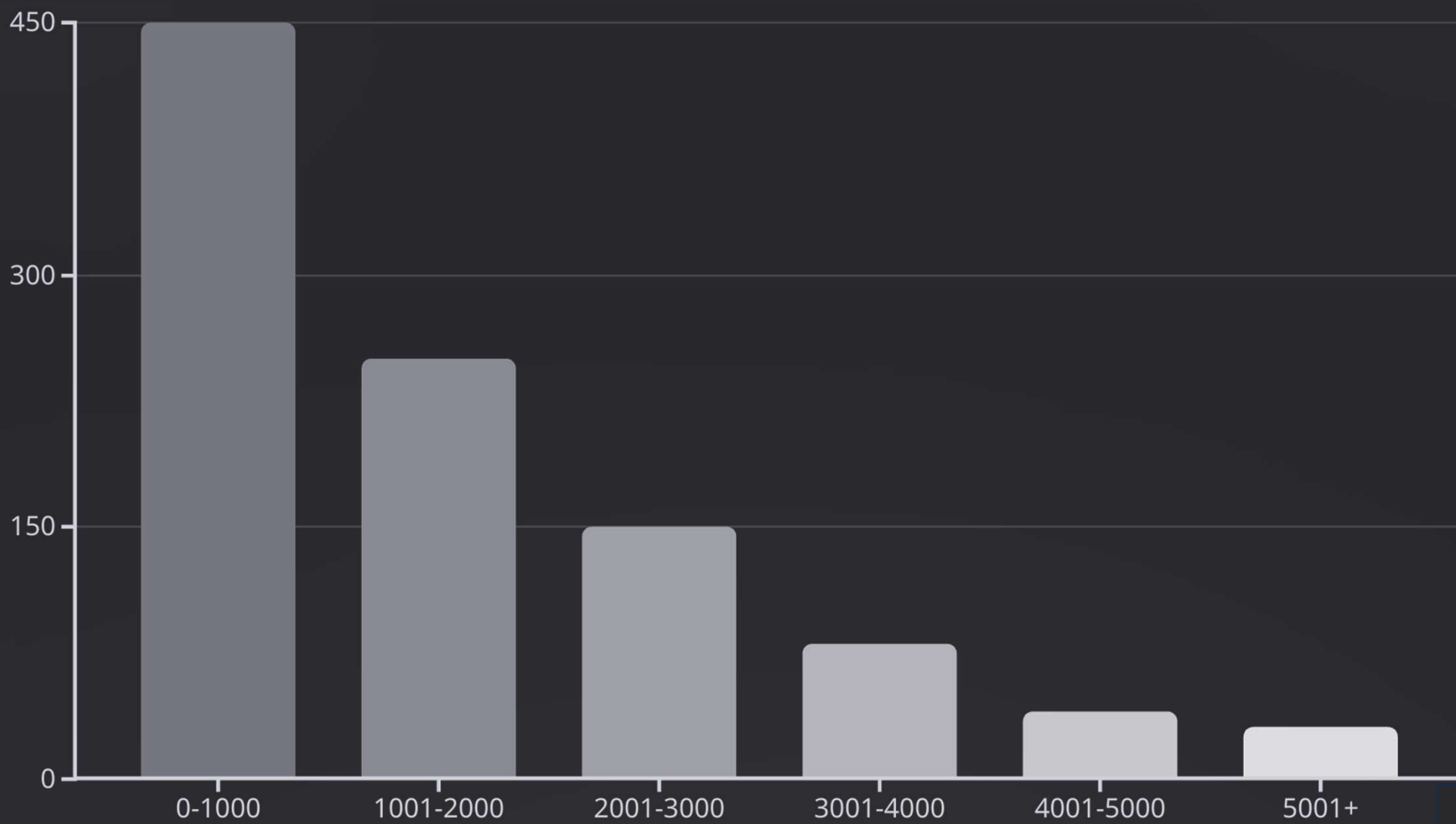
## Visualization Preparation

Set up visualization environment with Matplotlib and Seaborn for creating insightful charts and graphs

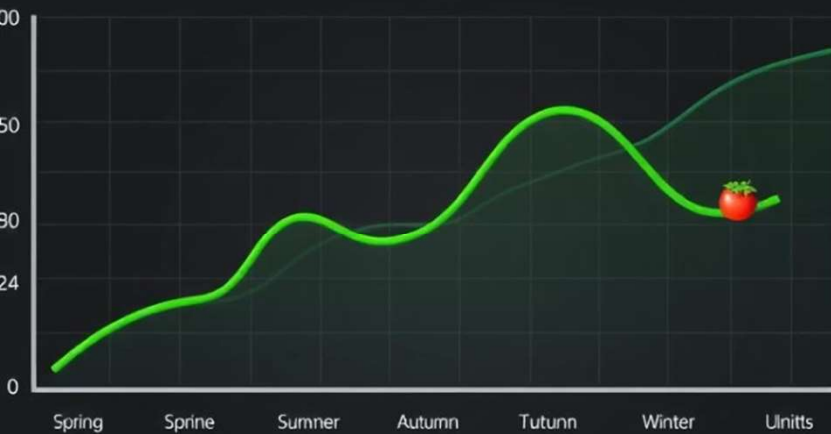
The EDA process followed a systematic approach to ensure data quality and prepare for meaningful analysis. Python code snippets were used at each stage to manipulate and transform the data efficiently.



## Distribution of Units Sold



# Veeetable Sales



## Time Series Analysis of Units Sold

1

Q1 2024

Initial growth period with moderate sales volumes and some fluctuation

2

Q2 2024

Notable peak in sales, suggesting seasonal demand increase for certain vegetables

3

Q3 2024

Slight decline followed by stabilization, indicating market adjustment

4

Q4 2024

Upward trend resuming, potentially related to holiday season demand

The time series analysis of units sold over time reveals significant fluctuations that suggest seasonal trends in vegetable purchasing patterns. These variations provide valuable insights for forecasting and inventory planning throughout the year.

The visualization was created using a line plot with markers to highlight individual data points, making it easier to identify specific periods of interest for further investigation.





# Revenue Analysis by Region

€8.2M

Europe

Highest revenue region

\$6.5M

North America

Second highest performer

¥5.3M

Asia

Strong growth potential

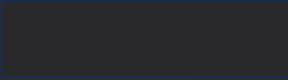
\$3.8M

Other Regions

Combined revenue

The regional revenue analysis clearly demonstrates that Europe generates the highest total revenue from vegetable sales, followed by North America and Asia. This geographical distribution of revenue highlights the importance of maintaining strong market presence in European countries while potentially exploring growth opportunities in emerging markets.

The bar chart visualization effectively communicates these regional differences, allowing for quick identification of high-performing and underperforming markets.



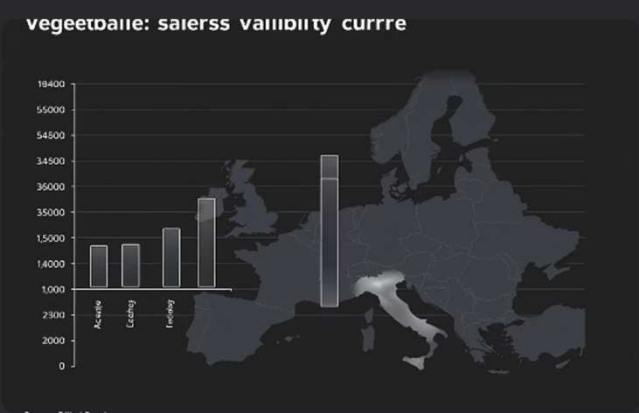
# Units Sold Variability by Region



## Asia Region

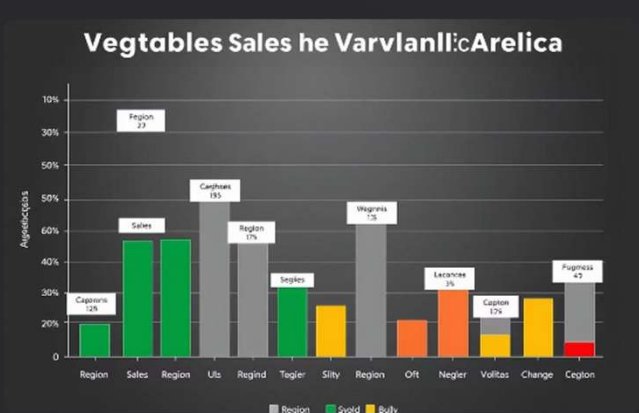
Shows highest variability in sales volumes with significant outliers, indicating inconsistent market performance that may require targeted strategies

The boxplot analysis reveals significant differences in sales variability across regions. Asia shows particularly high variability, suggesting opportunities for market stabilization strategies and inventory optimization in this region.



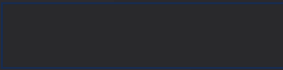
## Europe Region

Demonstrates more consistent sales patterns with narrower interquartile range, suggesting stable and predictable market behavior



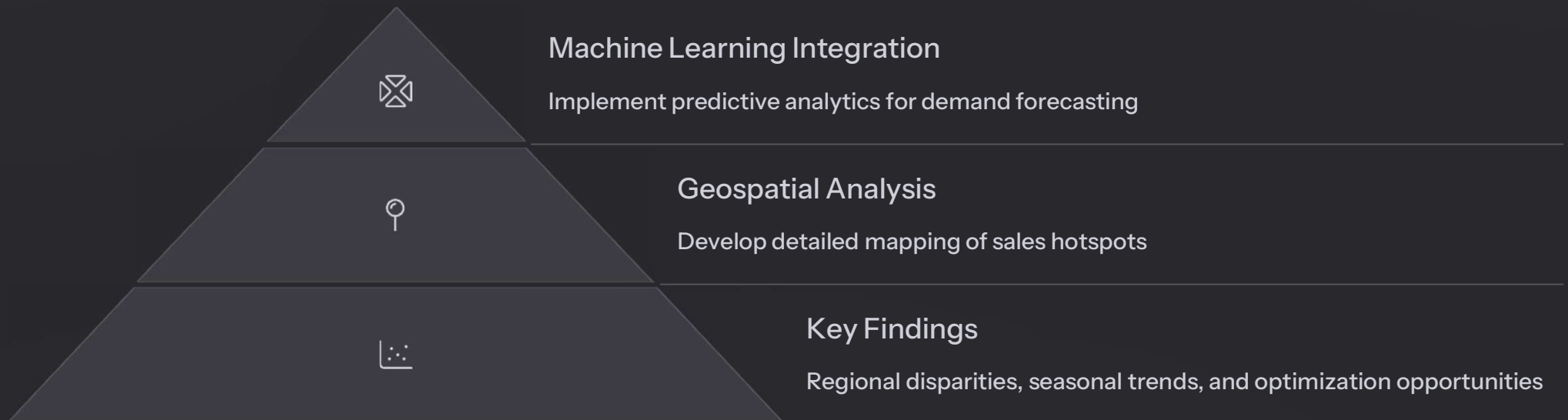
## North America

Shows moderate variability with fewer extreme values, indicating a balanced market with good potential for strategic growth initiatives





# Conclusions and Future Scope



Our analysis has revealed several important insights: Europe leads in revenue generation, there are clear seasonal trends in units sold, and high-variability regions like Asia present opportunities for inventory optimization. These findings can directly inform business strategies to improve profitability.

Looking forward, this project could be extended by integrating machine learning algorithms for more accurate demand forecasting and implementing geospatial analysis to identify specific sales hotspots within regions. These enhancements would provide even more actionable insights for vegetable sales optimization.

