

iRevolution: A Data-Driven Exploration of Apple's iPhone Impact in India

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1. Project Overview

The iRevolution project analyzes the impact of Apple's iPhone on the Indian smartphone market using data-driven techniques. The system collects datasets, preprocesses data, performs analytics, and presents insights through dashboards and storytelling visualizations.

2. Dataset Used

Datasets include iPhone sales statistics, pricing trends, regional adoption, consumer demographics, market share reports, and smartphone comparison datasets collected from public sources.

3. Data Preprocessing Steps

Data Collection – Importing datasets from CSV and public repositories.

Data Cleaning – Removing duplicate records and correcting inconsistent values.

Handling Missing Values – Filling or removing null entries using statistical methods.

Data Transformation – Converting formats, normalizing numerical values, and standardizing fields.

Feature Engineering – Creating new variables such as yearly growth rate and price segments.

Data Integration – Combining multiple datasets into a unified structure.

Outlier Detection – Identifying abnormal values affecting analysis.

Data Validation – Ensuring accuracy and consistency before analytics.

4. Flask Project Structure

The application backend is developed using Flask. The folder structure includes:

- app.py – Main Flask application
- templates/ – HTML dashboard pages
- static/ – CSS, JS, and visualization assets

- dataset/ – Stored CSV datasets
- models/ – Data analysis scripts

5. Dashboard Description

The dashboard displays interactive charts showing iPhone adoption trends, pricing comparison, regional growth, and market share visualization. Charts include bar graphs, line charts, and comparative analytics panels.

[Paste Dashboard Screenshot Here]

6. Data Story (Insights)

The story visualization explains how Apple's iPhone shifted from a premium niche device to a strong aspirational product in India. Insights highlight growth in Tier-1 and Tier-2 cities, increase in digital payments, and influence on competing smartphone brands.

[Paste Story Visualization Screenshot Here]

7. Conclusion

The iRevolution platform demonstrates how data analytics can reveal technological and economic impacts of smartphones in India. The solution supports research, business decision-making, and academic learning.