

# NextHikes IT Solutions

## Bike Sharing Demand Analysis Project Using Excel

### Problem Statement

Analyzing bike-sharing data helps understand how weather, time, and holidays affect bike rentals. This project uses Excel skills to clean, combine, and study datasets to find useful patterns that improve business planning.

Organized data leads to better decisions faster.

### Situation Overview

Data on bike rentals, weather, and user types is collected hourly and daily. This project uses Excel tools to clean and join data, visualize trends, create new features, and prepare easy-to-understand reports.

Look for patterns over time and how weather changes affect rentals.

### Dataset

Download Dataset\_1[[dataset 1 - Google Sheets](#)], Dataset\_2[[dataset 2.xlsx - Google Sheets](#)], and Dataset\_3 [[dataset 3 - Google Sheets](#)] and upload the datasets for your given analysis.

## Project Tasks

### 1. Excel Foundations & Data Handling

- Navigate Excel interface, use shortcuts, and format data.
- Enter, sort, filter data accurately.
- Use basic formulas: SUM, AVERAGE, COUNT, TEXT functions (LEFT, RIGHT, LEN).
- Apply conditional formatting to highlight key data.

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### 2. Data Loading, Merging & Cleaning

- Import datasets and merge on common keys (instant, dteday, hr) via Power Query or formulas (VLOOKUP/INDEX-MATCH).
  - Detect and handle missing or inconsistent data.
  - Remove duplicates and correct data types.
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### 3. Conditional Logic & Lookup Functions

- Use IF statements for conditional classification (e.g., weekend vs weekday).
  - Apply VLOOKUP, INDEX, MATCH to link and extract data from tables.
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### 4. Advanced Data Analysis

- Create pivot tables and pivot charts to summarize user demand by time, weather, or user type.
  - Group and aggregate data with calculated fields.
  - Use COUNTIF, SUMIF, STDEV, CORREL functions for statistics.
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### 5. Data Visualization & Business Intelligence

- Build interactive dashboards combining multiple charts (line, bar, funnel, heatmaps).
  - Add slicers and timelines for filtering dashboards dynamically.
  - Use AI-powered Excel tools (like Forecast Sheet, Anomaly Detection) to analyze trends and anomalies.
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### 6. Automation with VBA & AI Macros

- Record and edit macros for repetitive tasks automation.
  - Write VBA code with loops, conditionals, and custom functions to automate data cleaning and reporting.
  - Integrate AI-powered features into macros to automate predictive analysis and reporting.
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### 7. Final Project: Automated Data Reporting

- Combine all skills to automatically clean new data imports.
- Run AI-powered forecasting and anomaly detection.
- Generate comprehensive, automatically updating dashboards and reports.

Full workflow automation and AI-powered business intelligence.

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**Deliverables**

- Excel workbook(s) demonstrating all analysis, dashboards, and automation.
- VBA scripts/macros used for automation.
- Final automated report workbook with AI-driven insights.
- Summary document (10 pages max) describing methods, findings, and recommendations.

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**Submission Deadline: 15th Oct, 2025**