

--- FRONT MATTER INSTRUCTIONS ---

layout: This should always be 'layouts/base.html'.

title: The main title of your project. Keep it concise.

date: Use YYYY-MM-DD format for consistency.

summary: A one-sentence teaser that appears on the portfolio grid.

tags: The FIRST tag MUST be "projects". Add other relevant tools or technologies.

featuredImage: Path to the image. Must start with a forward slash '/'. e.g.,
/img/projects/your-image-name.jpg

featuredImageAlt: A brief, descriptive text for screen readers and SEO.

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layout: layouts/base.html title: "Baseline Project: Retail Sales Forecasting" date: 2025-09-05 summary: "A comprehensive case study on forecasting retail sales using time-series analysis in Python." tags: ["projects", "Python", "Prophet", "Pandas", "Time-Series"] featuredImage: /img/projects/project-placeholder.jpg featuredImageAlt: "A line chart showing retail sales forecasts against actuals."

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MAIN HEADING (H1)

How to write: Use a single '#' followed by a space.

The title from your front matter is used at the top of the page automatically, so your content should start with a subheading (H2).

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The Challenge: Predicting Future Sales

This is a standard paragraph. Just write your text on a new line. To create a new paragraph, leave an empty line between blocks of text. This section should briefly outline the business problem or the goal of your analysis. For example, a retail client needed to optimize inventory by accurately predicting sales for the next quarter.

Use a blockquote for powerful statements or key takeaways.

How to write: Use a '>' symbol at the start of the line.

Methodology & Process

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SUBHEADINGS (H2)

How to write: Use '##' followed by a space.

Use these to break your content into logical sections.

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The analysis followed a structured approach to ensure accurate and actionable results. This involved data preparation, modeling, and evaluation.

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ORDERED LIST (BULLET POINTS WITH NUMBERS)

How to write: Use '1.' '2.' etc., followed by a space.

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1. **Data Cleaning:** The raw sales data was imported using pandas and checked for missing values and outliers.
2. **Exploratory Data Analysis (EDA):** We visualized the time-series to identify trends, seasonality, and holidays.
3. **Modeling:** Facebook's Prophet library was used to build the forecasting model due to its robustness with seasonal data.
4. **Evaluation:** The model's accuracy was measured using Mean Absolute Percentage Error (MAPE).

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IMAGES

How to write: ![Alt Text](/path/to/image.jpg)

The path must start with a forward slash '/' and point to a file in your 'img' folder.

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This is an image caption written in italics.

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LINKS & CODE SNIPPETS

Link: [Text to display](https://www.example.com)

Inline Code: `code here`

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The final model was implemented in a Python script. You can find more about the Prophet library on the [official website](#). The key was tuning the `changepoint_prior_scale` parameter for better flexibility.

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CODE BLOCKS

How to write: Use three backticks ``` followed by the language name (e.g., python, sql, js). End with three backticks on a new line.

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from prophet import Prophet
import pandas as pd
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df = pd.read_csv('sales_data.csv')
m = Prophet(changepoint_prior_scale=0.5)
m.fit(df)
future = m.make_future_dataframe(periods=90)
forecast = m.predict(future)
```

This structured approach ensures that the case study is clear, easy to follow, and effectively showcases your technical skills as a data analyst.