

Project Timeline

Sales Forecasting Based on Past Sales Statistics

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Week	Tasks
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Week 0	<ul style="list-style-type: none">• Create project timeline.• Initial dataset understanding.
Week 1	<ul style="list-style-type: none">• Inspect dataset (schema, datatypes, missing values).• Theoretical review (time-series basics, ARIMA/Prophet, LSTM, evaluation metrics).• Data cleaning (datetime parsing, missing values, outliers).
Week 2	<ul style="list-style-type: none">• Further data cleaning (if needed).• Exploratory Data Analysis: trends, seasonality, decomposition, category comparisons.• Analyze relationships between behavioral data and sales.
Week 3	<ul style="list-style-type: none">• Refine preprocessing if needed.• Feature engineering (lags, rolling stats, seasonal indicators, behavioral features).• Implement baseline models (naïve, moving average, basic ARIMA/Prophet).
Week 4	<ul style="list-style-type: none">• Continue implementing baseline models and evaluate their performance.• Implement machine learning models (e.g., tree-based models such as XGBoost/LightGBM)• Initial training for machine learning models.
Week 5	<ul style="list-style-type: none">• Further training on implemented models.• Attempt implementing deep learning models (such as LSTM/GRU) if time permits.• Perform hyperparameter tuning for selected models.
Week 6	<ul style="list-style-type: none">• Compare models using MAE, RMSE, and MAPE.• Conduct error analysis and select best-performing models.• Derive business insights and generate final forecast visualizations.
Week 7	<ul style="list-style-type: none">• Finalize notebooks for submission.• Prepare report and presentation slides.• Buffer time for remaining work if needed.

Note: Weeks 0-7 in this table correspond to Weeks 10-17 in the Progress Spreadsheet.