

Walmart Demand Forecasting — Review-wise Video Plan

◆ Review-wise Completion Strategy

Review Stage Target Completion Judge Expectation

Review-2	~30%	Dataset understanding + baseline + early model
Review-3	~70%	Model comparison + evaluation methodology
Review-4	100%	Final system + deployment + business impact

■ REVIEW-2 (30% Completion) — Foundation & Early Model

Focus: Core concepts, dataset understanding, and baseline forecasting

Video No.	Video Title	Duration	Key Coverage	Viva / Judge Alignment
Video-1	Retail Forecasting Basics <i>(Conceptual Teaching)</i>	20–25 mins	<ul style="list-style-type: none">• What is demand forecasting• Challenges in retail demand• Time series fundamentals• Why M5 dataset exists• Business impact (inventory, supply chain)	<i>"Why forecasting is important?"</i> <i>"What is time series?"</i>
Video-2	Dataset Deep Dive & Linking	25–30 mins	<ul style="list-style-type: none">• M5 dataset overview• Sales, calendar, prices tables• Hierarchical structure• ID linking logic• Example: FOODS_1_018_CA_1	<i>"Explain your dataset"</i> <i>"How are tables linked?"</i>
Video-3	Preprocessing & Baseline Model	~30 mins	<ul style="list-style-type: none">• Wide → long format• Missing value handling• Aggregation strategy• Baseline models (Naive, Moving Avg)• Importance of baseline	<i>"We compared our model against a baseline"</i>

REVIEW-3 (70% Completion) — Modeling & Evaluation

Focus: Model selection, justification, and evaluation metrics

Video No.	Video Title	Duration	Key Coverage	Viva / Judge Alignment
Video-4	Forecasting Model Approaches (<i>Conceptual</i>)	35–40 mins	<ul style="list-style-type: none"> • ARIMA / SARIMA • ETS • Prophet • LSTM / GRU • Transformers • N-BEATS → Why LightGBM + Tweedie chosen 	<i>"We evaluated multiple approaches and selected the most scalable one"</i>
Video-5	LightGBM + Tweedie (Core Model)	30–35 mins	<ul style="list-style-type: none"> • LightGBM fundamentals • Tweedie distribution • Zero-inflated demand handling • Feature importance • 28-day forecast horizon 	<i>"Why Tweedie?"</i> <i>"Why predictions < 1?"</i>
Video-6	Evaluation & Hierarchical Forecasting	~30 mins	<ul style="list-style-type: none"> • RMSE, MAE • WRMSSE (clear explanation) • Hierarchical forecasting • Bottom-up vs Top-down • Aggregation consistency 	<i>"Evaluation follows M5 competition standards"</i>

REVIEW-4 (100% Completion) — Final System & Defense

Focus: System architecture, deployment, results, and viva readiness

Video No.	Video Title	Duration	Key Coverage	Judge Impact
Video-7	Application Architecture & Dashboard	~30 mins	<ul style="list-style-type: none">Backend → Model → CSV pipelinePre-aggregation strategyFrontend dashboards & filtersPerformance optimizationFast UI design	Appeals to non-CS judges
Video-8	Business Impact, Results & Viva Q&A	30–40 mins	<ul style="list-style-type: none">End-to-end demoCase study walkthroughForecast vs history analysisCommon viva questionsScalability & future scope	Builds final review confidence