Goal: Build an AI Model to forecast trends and detect opportunities in Retail Banking

Output:

Create an AI-based forecasting + opportunity detection solution for Retail Banking that predicts trends (deposits, loans, transactions volume, churn) by time/segment/branch/product. The output will include a simple, persuasive report/dashboard with clear opportunity signals (growth pockets, cross-sell targets, early risk alerts) backed by data and explained in business language.

Skills I want to learn:

1. Time-Series Forecasting (ARIMA/Prophet/ML forecasting)
2. Feature Engineering & Data Cleaning (banking datasets)
3. Model Evaluation & Backtesting (walk-forward validation, MAE/MAPE/RMSE)
4. Dashboard/Reporting & Model Explainability (Power BI/Tableau + SHAP)

Key Learnings I Want:

1. Learn how to select the right forecasting approach and validate it correctly without data leakage
2. Learn how to convert model outputs into 'opportunities' (target segments, campaigns, branch actions)
3. Learn how to present insights simply and persuasively to stakeholders with measurable impact

Major Constraints

1. Banking data can be messy: missing values, duplicates, inconsistent codes, outliers
2. Limited time/history: seasonality, policy/rate changes, festivals can distort patterns
3. Access/privacy constraints: limited joins across systems and PII masking requirements

Resources that can help

1. Forecasting: Principles and Practice (Hyndman) - time-series concepts + evaluation
2. Prophet Documentation - baseline forecasting with seasonality/holidays
3. Kaggle Time Series Course/Notebooks - hands-on forecasting projects and examples
4. scikit-learn Documentation - pipelines, metrics, model selection and validation
5. SHAP Explainability Tutorials - explain drivers behind forecasts/opportunity scores
6. Darts / PyTorch Forecasting Guides - modern forecasting and backtesting workflows