ML Workflow and Best Practices

About 🔗

This module covers the **end-to-end machine learning (ML) workflow and best practices** to ensure efficient, scalable, and generalizable machine learning models. Students will learn how to structure ML projects, prepare data, evaluate models, and optimize for performance.

Learning Objectives

By the end of this module, students will be able to:

- Define the ML workflow and its key components.
- Frame machine learning problems aligned with business objectives.
- Apply data splitting and validation techniques to improve model reliability.
- Understand and mitigate the bias-variance tradeoff.
- Use best practices for model evaluation and monitoring.

Content

Lesson	Est. Delivery Time	Skills
[Setup](#)	2 min	Set up the development environment.
[ML Workflow & Problem Definition](#)	30 min	List and explain the steps in the machine learning workflow.
[Data Splitting & Model Validation](#)	30 min	Identify and define a problem that needs to be addressed using a machine learning solution.
[Bias-Variance & Model Performance](#)	30 min	Evaluate a model using train-test splitting technique.
Total content	~90 min	