About

This module explores neural networks and AI architectures, covering foundational concepts such as artificial neurons, activation functions, CNNs, RNNs, and Transformers. You'll learn how different architectures process structured, image, text, and sequential data, emphasizing the importance of model selection for real-world applications. The module also introduces data quality considerations, multimodal AI systems, and AI optimization strategies.

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

- Understand how different AI architectures process data.
- Choose the right AI model based on data type and constraints.
- Explore multimodal AI systems that combine multiple architectures.
- Apply AI model selection principles through a case study.

Content

Lesson	Est. Delivery Time	Skills
Setup	2 min	Set up the development environment.
Intro to Neural Networks	20 min	Neural network fundamentals and core training concepts.
Deep Learning Architectures	20 min	Deep learning architectures (FNNs, CNNs, RNNs, Transformers), their functions, applications, and advanced techniques for AI model optimization.
AI Architectures for Different Data Modalities	25 min	AI architectures for structured, image, and text data; their challenges, optimization techniques, and real-world applications.
Case Study: Choosing the Right AI Model	25 min	AI model selection, optimization steps, and applications across structured, image, text, and sequential data.
Total content	~ 1 hr 30 min	