Lesson Overview

Welcome to **Deep Learning Fundamentals**! This lesson is your gateway to the exciting field of deep learning.

Deep learning is the cornerstone of many recent breakthroughs in AI, and by understanding its fundamentals, you're setting yourself up for success in creating innovative generative AI applications.

Lesson Objectives

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

- Understand the fundamentals of the **perceptron** algorithm and basic **neural network** architecture
- Apply **PyTorch** for practical deep-learning tasks
- Apply **Hugging Face** for practical deep learning tasks
- Use **transfer learning** to leverage pre-trained models for a variety of machine learning tasks

Prerequisites

Before starting this lesson, you should already be able to:

- Use **Python** at an intermediate level, including creating variables, importing libraries, writing functions, and extracting information from nested data structures
- Describe the high-level history and landscape of machine learning, artificial intelligence, and generative AI

Get Ready to Dive In!

As someone already familiar with generative AI, you understand the potential of these technologies. This lesson is designed to build on that foundation, offering you the tools and knowledge to turn potential into reality. Through learning the concepts and practicing with hands-on exercises, you'll get closer to the forefront of AI innovation.

Let's embark on this transformative journey together. The world of deep learning awaits!