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We learned that training deep neural networks involves guided adjustments to improve their performance on tasks like image recognition. By gradually refining the network's parameters and learning from mistakes, these networks become smarter and more skilled at predicting outcomes. The marvel of this technology is its ability to turn raw data into meaningful insights.
Technical Terms Explained:
Labeled Dataset: This is a collection of data where each piece of information comes with a correct answer or label. It's like a quiz with the questions and answers already provided.
Gradient Descent: This method helps find the best settings for a neural network by slowly tweaking them to reduce errors, similar to finding the lowest point in a valley.
Cost Function: Imagine it as a score that tells you how wrong your network's predictions are. The goal is to make this score as low as possible.
Learning Rate: This hyperparameter specifies how big the steps are when adjusting the neural network's settings during training. Too big, and you might skip over the best setting; too small, and it'll take a very long time to get there.
Backpropagation: Short for backward propagation of errors. This is like a feedback system that tells each part of the neural network how much it contributed to any mistakes, so it can learn and do better next time.