

## StudyBuddy Agent Testing Document

Subject: Introduction to Artificial Intelligence Concepts

This document provides a brief overview of key concepts in Artificial Intelligence.

1. Machine Learning: A subset of AI that enables systems to learn from data without being explicitly programmed. It focuses on developing algorithms that allow computers to improve their performance on a specific task over time through experience.
2. Deep Learning: A specialized subfield of machine learning that uses neural networks with many layers ("deep" networks) to learn complex patterns in data. It has been highly successful in areas like image recognition and natural language processing.
3. Natural Language Processing (NLP): The field of AI concerned with the interactions between computers and human (natural) languages. It enables computers to understand, interpret, and generate human language. Examples include sentiment analysis, machine translation, and chatbots.
4. Computer Vision: An interdisciplinary scientific field that deals with how computers can gain high-level understanding from digital images or videos. Its goal is to automate tasks that the human visual system can do, such as object detection, facial recognition, and image classification.

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