

AI in Our Daily Lives

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Introduction

- Artificial Intelligence (AI) has become an integral part of our daily lives, influencing how we interact with the world around us. From social media algorithms to the way we shop online, AI is embedded in many of the tools and devices we use every day. Among the most noticeable and widely used applications of AI are smartphones and virtual assistants like Siri, Google Assistant, and Alexa. These AI-powered systems have changed the way we perform tasks, communicate, and manage our time.

Introduction

- In this lecture, we will explore the role of AI in smartphones and virtual assistants, highlighting how they work, their benefits, and their impact on our lives.



AI in Smartphones

- Smartphones are one of the most pervasive technologies in modern society, with nearly every person owning one. The AI embedded in smartphones is responsible for many features we now take for granted.



AI for User Experience and Personalization

- AI in smartphones is primarily used to personalize the user experience. Machine learning algorithms gather data on how we use our phones and adjust the system to make our interactions smoother and more intuitive.
- Predictive Text and Autocorrect: Smartphones use AI-driven language models to predict what we want to type next, correcting spelling errors or suggesting phrases. This is particularly useful when composing messages or emails. For example, Google Keyboard (Gboard) uses AI to predict the next word or emoji you might use based on your typing history.

AI for User Experience and Personalization

- App Recommendations: The App Store (iOS) and Google Play Store (Android) use AI to analyze your usage patterns and recommend apps that you might like, based on previous downloads and interests.

Facial Recognition and Security

- AI plays a crucial role in enhancing the security of smartphones through biometric authentication.
- Face Unlock: Apple's Face ID and Android's facial recognition technology use AI to map your face in 3D and compare it to stored data, allowing you to unlock your phone securely. This technology is powered by convolutional neural networks (CNNs), which are highly efficient in processing visual data.
- Fingerprint Scanning: Many phones now include fingerprint scanners, which use AI to improve accuracy by learning the subtle details of your fingerprint with each scan.

Voice and Gesture Control

- AI-powered voice recognition systems enable us to interact with our smartphones hands-free.
- Voice Assistants: Virtual assistants like Siri, Google Assistant, and Samsung's Bixby rely on AI to process natural language commands. This allows users to perform tasks like sending messages, setting reminders, or asking for directions simply by speaking to their phone.
- Gesture Recognition: Some smartphones, such as the Google Pixel, use AI to interpret gestures like swiping, tapping, or hovering over the screen, enabling users to interact without touching the device.

What are Virtual Assistants?

- A virtual assistant is an AI-based software agent designed to help users perform tasks via voice or text commands. They use natural language processing (NLP), machine learning, and speech recognition to understand and respond to queries.

Popular virtual assistants include:

- Apple Siri (introduced in 2011)
- Google Assistant (launched in 2016)
- Amazon Alexa (released in 2014)

These assistants are integrated into smartphones, smart speakers, and other devices, making them accessible across various platforms.

Popular virtual assistants

