

## AI for Edge Computing

**Q:** Define edge computing and explain how AI enhances its capabilities. Provide an example of a real-world application where AI-powered edge computing is critical.

**A:** Edge computing refers to processing data closer to its source (such as IoT devices) rather than sending it to a centralized cloud. AI enhances edge computing by enabling real-time data processing, reducing latency, and improving efficiency.

*Example:* AI-powered security cameras use edge computing to detect suspicious activities in real time, reducing response time in surveillance applications.

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## AI and IoT Integration

**Q:** How does the integration of AI with IoT improve the functionality of smart home systems? Explain with an example of an AI-powered IoT device and its benefits.

**A:** AI improves IoT functionality by enabling automation, pattern recognition, and decision-making without human intervention.

*Example:* Smart thermostats like Nest use AI to learn user preferences and automatically adjust temperatures, leading to energy savings and increased comfort.

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## AI and IoB (Internet of Bodies)

**Q:** What is the Internet of Bodies (IoB), and how does AI integration with IoB devices improve healthcare monitoring? Provide an example of an AI-powered IoB application.

**A:** The Internet of Bodies (IoB) consists of connected wearable or implantable devices that track biological data. AI helps analyze this data in real-time, detecting abnormalities and predicting health risks.

*Example:* AI-powered pacemakers monitor heart rhythms and alert doctors if irregularities are detected, potentially preventing heart attacks.

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## Human-AI Collaboration

**Q:** What is human-AI collaboration, and how does it benefit industries like healthcare and creative arts? Provide an example of how AI can assist humans in a collaborative setting.

**A: Human-AI collaboration refers to AI systems working alongside humans to enhance productivity and decision-making. AI augments human capabilities rather than replacing them.**

***Example:*** In healthcare, AI-powered diagnostic tools assist doctors by analyzing X-rays and MRI scans, improving diagnostic accuracy while allowing doctors to focus on patient care.