

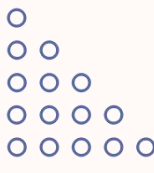
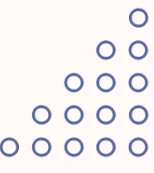


Title: The Role of Artificial Intelligence in Powering Agriculture



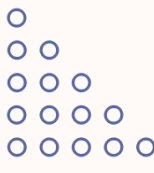
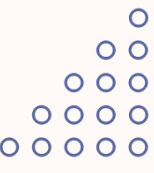


Introduction

- Agriculture is the backbone of many economies worldwide, and its productivity is critical for global food security.
 - Artificial Intelligence (AI) is revolutionizing the agricultural sector, offering innovative solutions to improve productivity, efficiency, and sustainability.
- 
- 

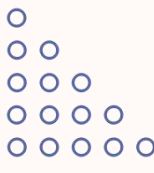
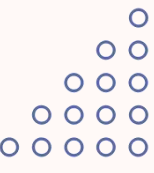


Challenges in Agriculture

- Various challenges such as climate change, limited resources, labor shortages, and increasing demand for food require innovative solutions.
- 
- 

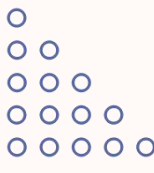
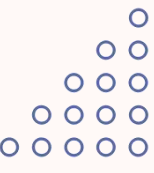


How AI is Revolutionizing Agriculture

- AI technologies are transforming agriculture by providing data-driven insights and automation to optimize various processes.
 - Examples:
 - Precision farming
 - Crop monitoring and management
 - Predictive analytics for weather and pest management
 - Supply chain optimization
 - Livestock monitoring and management
- 
- 

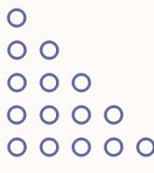
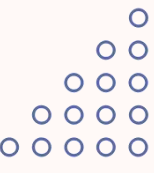


Precision Farming

- Precision farming involves using AI and IoT devices to optimize crop production by analyzing data such as soil moisture, temperature, and nutrient levels.
 - Examples:
 - Automated irrigation systems
 - Variable rate fertilization
 - Drone and satellite imagery for crop monitoring
- 
- 

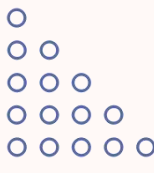
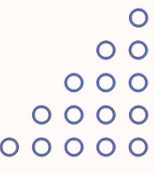


Crop Monitoring and Management

- AI-powered systems analyze satellite and drone imagery to monitor crop health, detect diseases and pests, and optimize harvesting.
 - Examples:
 - Disease and pest detection
 - Weed identification and management
 - Yield prediction
- 
- 

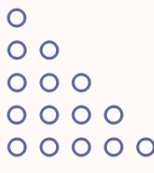
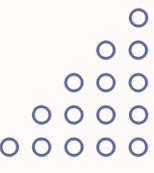


Predictive Analytics for Weather and Pest Management

- AI algorithms analyze historical and real-time data to predict weather patterns and pest outbreaks, allowing farmers to take preventive measures.
 - Examples:
 - Early warning systems for extreme weather events
 - Pest and disease forecasting
 - Decision support systems for pesticide and fungicide application
- 
- 

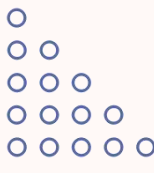
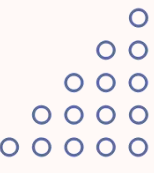


Supply Chain Optimization

- AI optimizes the agricultural supply chain by improving logistics, inventory management, and distribution.
 - Examples:
 - Predictive demand forecasting
 - Route optimization for transportation
 - Real-time monitoring of inventory and storage conditions
- 
- 

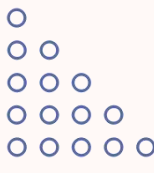


Livestock Monitoring and Management

- AI-powered sensors and data analytics improve livestock health, welfare, and productivity.
 - Examples:
 - Health monitoring and disease detection
 - Feed management and optimization
 - Breeding and reproduction management
- 
- 



Benefits of AI in Agriculture

- Increased productivity and efficiency
 - Reduced resource usage and environmental impact
 - Improved decision-making and risk management
 - Enhanced food quality and safety
- 
- 