AI IN 12 MINUTES FOR AGRICULTURE

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1/24
MOTIVATION - WHY AI?

Crop yield optimization
Precision farming techniques
Predictive analytics for crop health
Automated farm equipment
AI in supply chain efficiency

2/24
INDUSTRY

Crop Cultivation
Livestock Management
Agricultural Equipment
Food Processing
Supply and Distribution Networks

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3/24
STRATEGIC TRENDS

AI-driven precision agriculture
Robotics in harvesting and planting
Machine learning for pest and disease prediction
AI in climate impact analysis
Smart irrigation systems
Autonomous tractors and drones
AI for livestock monitoring
Supply chain optimization with AI
AI in agri-food market analysis
Sustainable farming practices using AI

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4/24
WHY CHANGE?

Increased productivity
Sustainable farming practices
Reduced resource waste
Enhanced crop quality
Efficient supply chain management

5/24
LEADING THE CHANGE

John Deere (AI in farm machinery)
Monsanto (AI-driven crop solutions)
Cargill (Agribusiness and AI applications)
CNH Industrial (Agricultural equipment with AI)
AGCO (High-tech farming solutions)

6/24
DIGITAL TRANSFORMATION

AI for soil health analysis
Drones in precision agriculture
Machine learning in yield prediction
Robotics in planting and harvesting
AI-driven livestock health monitoring
Data analytics for supply chain management
AI in weather forecasting for farming
IoT sensors for crop monitoring
AI in farm resource management
Automated irrigation control systems

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AI DISRUPTION

AI in optimizing crop growth conditions
Autonomous machines for efficient farming
Predictive analytics in crop disease management
AI-driven agricultural data insights
Precision livestock feeding with AI
AI for real-time farm management decisions
Machine learning in agricultural economics
AI in enhancing food processing techniques
Sustainable resource allocation using AI
Enhanced food safety with AI monitoring

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GREAT EXAMPLES OF AI

John Deere’s autonomous tractors
Blue River Technology’s AI in weed control
The Climate Corporation’s AI for weather prediction
Afimilk’s AI in dairy farm management
Agrosmart’s AI for crop monitoring
IBM Watson’s AI in agricultural analytics
Farmbot’s AI-driven precision farming
Granular’s AI in farm management software
CropIn’s AI for smart agriculture
Taranis’s AI in aerial imagery for farming

9/24 ECOSYSTEM REQUIREMENTS

Access to advanced AI technologies
High-speed internet connectivity in rural areas
Collaboration between tech companies and farmers
Training and education in AI and agribusiness
Supportive regulatory frameworks for tech adoption

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AI ⏩ SUSTAINABILITY

Reduced environmental impact of farming

AI in efficient water and land usage

Sustainable crop and livestock management

Reduced greenhouse gas emissions

AI-driven conservation practices in agriculture

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NEW RISKS - ETHICAL, LEGAL, SOCIAL

AI biases in farming decisions
Data privacy concerns in agri-data
Dependence on technology for farming
Cybersecurity threats in agri-tech systems
Ethical concerns in automated livestock management

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AI MISUSE EXAMPLES

Misuse of AI in market manipulation

Unauthorized data collection on farms

AI-driven overuse of agrochemicals

Over-reliance on automated farming systems

Biased AI affecting small-scale farmers

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THREE
AI DILEMMAS

AI-driven efficiency vs. traditional farming practices?

Ethical use of AI in animal husbandry?

Balancing tech advancement with farmer autonomy?

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14/24 ORGANIZATIONAL REQUIREMENTS

Investment in AI research and development

Infrastructure for tech integration in agriculture

Skilled workforce in AI and agribusiness

Ethical guidelines for AI use in farming

Strong focus on data security and privacy

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STEP BY STEP APPLICATION

Identify AI applications in agriculture
Implement AI tools for precision farming and livestock management
Train agribusiness professionals in AI technologies
Integrate AI in supply chain and food processing
Continuously assess AI impact and refine strategies

16/24
BEST PRACTICES

Start small with AI pilot projects
Focus on AI for sustainable farming
Maintain transparency in AI-driven practices
Encourage farmer participation in AI adoption
Adapt AI tools to local agricultural needs

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AI TOOLS & MODELS

Predictive models for crop yield

AI algorithms for pest and disease detection

Machine learning in soil nutrient analysis

Data analytics for market and supply trends

Neural networks for climate impact studies

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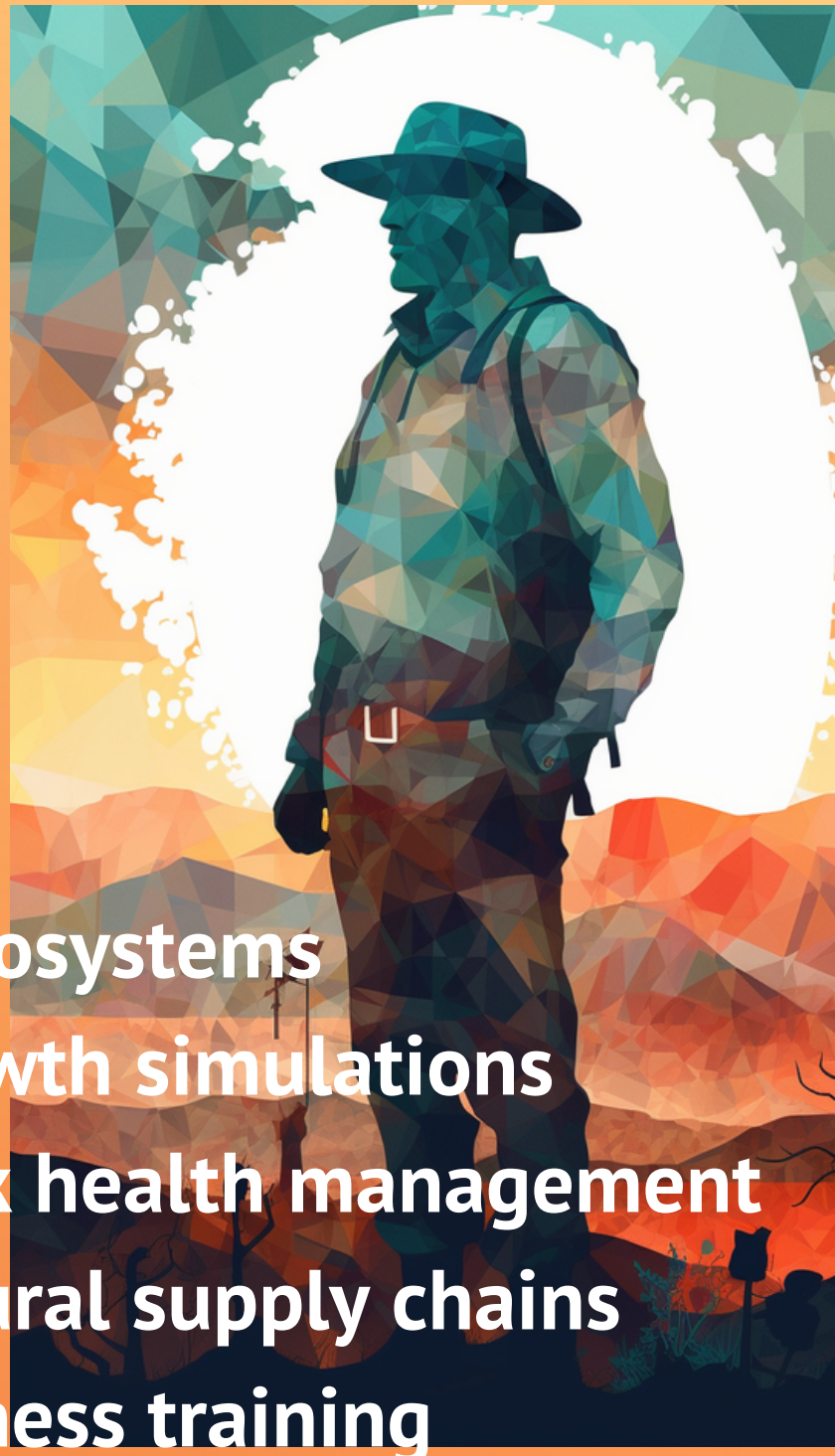
USEFUL
DIGITAL TWINS



Digital twins of farming ecosystems
Virtual models of crop growth simulations
AI simulations for livestock health management
Digital replicas of agricultural supply chains
Virtual reality for agribusiness training

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19/24
COOL NORWEGIAN CASES

Yara: Fertilizers and sustainable crop solutions.
Kverneland Group: Farm machinery and tech.
Geno: Dairy cattle genetics.
Nortura: Meat and egg cooperative.
Felleskjøpet: Agricultural supplies and machinery.
Desert Control: Liquid natural clay for soil.
Farmable: Farm management app.
Saga Robotics: Autonomous robotic solutions.
N2 Applied: Nitrogen enrichment technology.
ClevAir: Smart farming through climate control.

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GLOBAL LEADERS

United States (Advanced in agri-tech and AI)
Netherlands (Innovative in sustainable farming)
Brazil (Large-scale agribusiness and tech adoption)
China (Rapidly growing in agri-tech solutions)
India (Diverse agricultural practices and tech integration)

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FUTURE JOBS

AI specialists in agribusiness
Precision agriculture technicians
Data analysts for farming analytics
Sustainable farming consultants
AI-driven supply chain managers

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22/24
THE FUTURE OF AI

Fully automated smart farming systems
AI in enhancing global food security
Advanced AI in sustainable agriculture
AI-driven precision in animal husbandry
Integration of AI in all aspects of agribusiness

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23/24 RECOMMENDED READING

"Precision Agriculture Technology for Crop Farming" by Qin Zhang

"Digital Agriculture" by R. H. Durrett

"Agricultural Robots: Fundamentals and Applications" by Stephen Blackmore

"Agro-Industrial Wastes as Feedstock for Enzyme Production" by Gurpreet S. Dhillon, Surinder Kaur

"The Third Plate: Field Notes on the Future of Food" by Dan Barber

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24/24 GOOD TED TALKS

"The next agricultural revolution is here" by Bruce Friedrich

"How farms of the future can feed humanity sustainably" by Danielle Nierenberg

"A robot that grows lettuce" by Lee Redden

"The case for engineering our food" by Pamela Ronald

"Why climate change is a threat to human rights" by Mary Robinson

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WHAT WOULD YOU ADD?

LET ME KNOW!

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